

Technical Report for

Arcadis-US, Inc

Castner Firing Range; Ft Bliss, TX

06261038.0001.00400

SGS Accutest Job Number: FA36526

Sampling Date: 08/29/16

Report to:

Arcadis-US, Inc
401 E Main St Suite 400

(b) (6)

Total number of pages in report: 135



Test results contained within this data package meet the requirements
of the National Environmental Laboratory Accreditation Program

(b) (6)

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001)
DoD ELAP (L-A-B L2229), CA (2937), TX (T104704404), PA (68-03573), VA (460177),
AK, AR, GA, KY, MA, NV, OK, UT, WA

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Test results relate only to samples analyzed.

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Sample Summary

Arcadis-US, Inc

Job No: FA36526

Castner Firing Range; Ft Bliss, TX
Project No: 06261038.0001.00400

Sample Number	Collected		Received	Matrix		Client
	Date	Time By		Code	Type		Sample ID
FA36526-1	08/29/16	13:50 AG	08/30/16	AQ	Water	FTBL-SP-03-082916-QA
FA36526-1F	08/29/16	13:50 AG	08/30/16	AQ	Water Filtered	FTBL-SP-03-082916-QA

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Arcadis-US, Inc

Job No: FA36526

Site: Castner Firing Range; Ft Bliss, TX

Report Date: 9/7/2016 11:33:20 PM

1 Sample(s) were collected on 08/29/2016 and were received at SGS Accutest Southeast (SASE) on 08/30/2016 properly preserved, at 4 Deg. C and intact. These Samples received an SASE job number of FA36526. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Metals By Method SW846 6010C

Matrix: AQ

Batch ID: MP30786

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA36481-6DUP, FA36481-6MS, FA36481-6MSD, FA36481-6PS, FA36481-6SDL were used as the QC samples for metals.

RPD(s) for Duplicate for Antimony, Nickel, Zinc are outside control limits for sample MP30786-D1. RPD acceptable due to low duplicate and sample concentrations.

RPD(s) for Serial Dilution for Antimony, Copper, Nickel, Zinc are outside control limits for sample MP30786-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

(b) (6)

Date: September 7, 2016

Wednesday, September 07, 2016

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Summary of Hits

Page 1 of 1

Job Number: FA36526
Account: Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX
Collected: 08/29/16



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA36526-1	FTBL-SP-03-082916-QA					
Beryllium		3.1 J	4.0	1.0	ug/l	SW846 6010C
Copper		2.0 J	25	2.0	ug/l	SW846 6010C
FA36526-1F	FTBL-SP-03-082916-QA					
Antimony		1.2 J	6.0	5.0	ug/l	SW846 6010C
Beryllium		2.8 J	4.0	1.0	ug/l	SW846 6010C
Copper		1.9 J	25	2.0	ug/l	SW846 6010C

Sample Results

Report of Analysis

Report of Analysis

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Client Sample ID: FTBL-SP-03-082916-QA

Lab Sample ID: FA36526-1

Matrix: AQ - Water

Date Sampled: 08/29/16

Date Received: 08/30/16

Percent Solids: n/a

Project: Castner Firing Range; Ft Bliss, TX

Total Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	5.0 U	6.0	5.0	1.0	ug/l	1	08/31/16	09/01/16	LM	SW846 6010C ¹ SW846 3010A ²
Arsenic	5.0 U	10	5.0	1.3	ug/l	1	08/31/16	09/01/16	LM	SW846 6010C ¹ SW846 3010A ²
Beryllium	3.1 J	4.0	1.0	0.20	ug/l	1	08/31/16	09/01/16	LM	SW846 6010C ¹ SW846 3010A ²
Copper	2.0 J	25	2.0	1.0	ug/l	1	08/31/16	09/01/16	LM	SW846 6010C ¹ SW846 3010A ²
Lead	2.0 U	5.0	2.0	1.1	ug/l	1	08/31/16	09/01/16	LM	SW846 6010C ¹ SW846 3010A ²
Nickel	1.0 U	40	1.0	0.40	ug/l	1	08/31/16	09/01/16	LM	SW846 6010C ¹ SW846 3010A ²
Zinc	5.0 U	20	5.0	4.4	ug/l	1	08/31/16	09/01/16	LM	SW846 6010C ¹ SW846 3010A ²

(1) Instrument QC Batch: MA13380

(2) Prep QC Batch: MP30786

LOQ = Limit of Quantitation DL = Detection Limit

LOD = Limit of Detection

U = Indicates a result < LOD

J = Indicates a result > = DL (MDL) but < LOQ

Report of Analysis

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Client Sample ID: FTBL-SP-03-082916-QA

Lab Sample ID: FA36526-1F

Matrix: AQ - Water Filtered

Date Sampled: 08/29/16

Date Received: 08/30/16

Percent Solids: n/a

Project: Castner Firing Range; Ft Bliss, TX

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	1.2 J	6.0	5.0	1.0	ug/l	1	08/31/16	09/01/16 LM	SW846 6010C	¹ SW846 3010A ²
Arsenic	5.0 U	10	5.0	1.3	ug/l	1	08/31/16	09/01/16 LM	SW846 6010C	¹ SW846 3010A ²
Beryllium	2.8 J	4.0	1.0	0.20	ug/l	1	08/31/16	09/01/16 LM	SW846 6010C	¹ SW846 3010A ²
Copper	1.9 J	25	2.0	1.0	ug/l	1	08/31/16	09/01/16 LM	SW846 6010C	¹ SW846 3010A ²
Lead	2.0 U	5.0	2.0	1.1	ug/l	1	08/31/16	09/01/16 LM	SW846 6010C	¹ SW846 3010A ²
Nickel	1.0 U	40	1.0	0.40	ug/l	1	08/31/16	09/01/16 LM	SW846 6010C	¹ SW846 3010A ²
Zinc	5.0 U	20	5.0	4.4	ug/l	1	08/31/16	09/01/16 LM	SW846 6010C	¹ SW846 3010A ²

(1) Instrument QC Batch: MA13380

(2) Prep QC Batch: MP30786

LOQ = Limit of Quantitation DL = Detection Limit

LOD = Limit of Detection

U = Indicates a result < LOD

J = Indicates a result > = DL (MDL) but < LOQ

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

Accutest Laboratories Southeast

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL: 407-425-6700 FAX: 407-425-0707
www.accufest.com

ACCUTEST JOB # :

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FA36526

[illegible]

FA36526: Chain of Custody

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SGS ACCUTEST - ORLANDO SAMPLE RECEIPT CONFIRMATION

SGS ACCUTEST'S JOB NUMBER: FA36526 CLIENT: Arcadis PROJECT: Closed Castner
 DATE/TIME RECEIVED: 8/30/16 930 [MM/DD/YY 24:00] NUMBER OF COOLERS RECEIVED: 1
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER DELIVERY OTHER: _____
 AIRBILL NUMBERS: 8026 5614 5333

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ CHAIN OF CUSTODY NOT RECEIVED (COC)
- ☐ ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- ☐ SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- ☐ TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- ☐ TRIP BLANK PROVIDED
- ☒ TRIP BLANK NOT PROVIDED
- ☒ TRIP BLANK NOT ON COC
- ☐ TRIP BLANK INTACT
- ☐ TRIP BLANK NOT INTACT
- ☐ RECEIVED WATER TRIP BLANK
- ☐ RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM 5-GRAM
 NUMBER OF 5035 FIELD KITS ? _____
 NUMBER OF LAB FILTERED METALS ? _____

TEST STRIP LOT#s pH 0-3 230315

SUMMARY OF COMMENTS: _____

TEMPERATURE INFORMATION

- ☐ IR THERM ID 1 CORR. FACTOR -0.4
- ☐ OBSERVED TEMPS: 4.4
- ☐ CORRECTED TEMPS: 4.0 (USED FOR LIMS)

SAMPLE INFORMATION

- ☐ INCORRECT NUMBER OF CONTAINERS USED
- ☐ SAMPLE RECEIVED IMPROPERLY PRESERVED
- ☐ INSUFFICIENT VOLUME FOR ANALYSIS
- ☐ DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- ☐ ID'S ON COC DO NOT MATCH LABEL
- ☐ VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- ☐ BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- ☐ NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- ☐ UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- ☐ SAMPLE CONTAINER(S) RECEIVED BROKEN
- ☐ 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- ☐ BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- ☐ % SOLIDS JAR NOT RECEIVED
- ☐ RESIDUAL CHLORINE PRESENT LOT# _____

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

OTHER (specify) _____

TECHNICIAN SIGNATURE

NF 02/16

REVIEWER SIGNATURE/DATE

receipt confirmation 020116.xls

FA36526: Chain of Custody

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5.1
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QC Evaluation: DOD QSM5 Limits

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Job Number: FA36526
Account: Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX
Collected: 08/29/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP30786	SW846 6010C						
MP30786-B1	7440-36-0	Antimony	BSP	REC	91	%	88-113
MP30786-B1	7440-38-2	Arsenic	BSP	REC	89	%	87-113
MP30786-B1	7440-41-7	Beryllium	BSP	REC	95.4	%	89-112
MP30786-B1	7440-50-8	Copper	BSP	REC	97.6	%	86-114
MP30786-B1	7439-92-1	Lead	BSP	REC	90.2	%	86-113
MP30786-B1	7440-02-0	Nickel	BSP	REC	93.2	%	88-113
MP30786-B1	7440-66-6	Zinc	BSP	REC	95.8	%	87-115
MP30786-S1*	7440-36-0	Antimony	MS	REC	102.5	%	88-113
MP30786-S1*	7440-38-2	Arsenic	MS	REC	96.5	%	87-113
MP30786-S1*	7440-41-7	Beryllium	MS	REC	99.8	%	89-112
MP30786-S1*	7440-50-8	Copper	MS	REC	104.1	%	86-114
MP30786-S1*	7439-92-1	Lead	MS	REC	100	%	86-113
MP30786-S1*	7440-02-0	Nickel	MS	REC	92.1	%	88-113
MP30786-S1*	7440-66-6	Zinc	MS	REC	92.2	%	87-115
MP30786-S2*	7440-36-0	Antimony	MSD	REC	107.3	%	88-113
MP30786-S2*	7440-36-0	Antimony	MSD	RPD	4.5	%	20
MP30786-S2*	7440-38-2	Arsenic	MSD	REC	101	%	87-113
MP30786-S2*	7440-38-2	Arsenic	MSD	RPD	4.6	%	20
MP30786-S2*	7440-41-7	Beryllium	MSD	REC	104.4	%	89-112
MP30786-S2*	7440-41-7	Beryllium	MSD	RPD	4.5	%	20
MP30786-S2*	7440-50-8	Copper	MSD	REC	109.3	%	86-114
MP30786-S2*	7440-50-8	Copper	MSD	RPD	4.8	%	20
MP30786-S2*	7439-92-1	Lead	MSD	REC	105	%	86-113
MP30786-S2*	7439-92-1	Lead	MSD	RPD	4.9	%	20
MP30786-S2*	7440-02-0	Nickel	MSD	REC	96.5	%	88-113
MP30786-S2*	7440-02-0	Nickel	MSD	RPD	4.7	%	20
MP30786-S2*	7440-66-6	Zinc	MSD	REC	96.8	%	87-115
MP30786-S2*	7440-66-6	Zinc	MSD	RPD	4.4	%	20
MP30786-D1*	7440-36-0	Antimony	DUP	RPD	30 ^a	%	20
MP30786-D1*	7440-38-2	Arsenic	DUP	RPD	0	%	20
MP30786-D1*	7440-41-7	Beryllium	DUP	RPD	0	%	20
MP30786-D1*	7440-50-8	Copper	DUP	RPD	16.2	%	20
MP30786-D1*	7439-92-1	Lead	DUP	RPD	0	%	20
MP30786-D1*	7440-02-0	Nickel	DUP	RPD	200 ^a	%	20
MP30786-D1*	7440-66-6	Zinc	DUP	RPD	94.2 ^a	%	20

(a) RPD acceptable due to low duplicate and sample concentrations.

* Sample used for QC is not from job FA36526

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Accutest Instrument Runlog
Inorganics AnalysesLogin Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TXFile ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
Analyst: LM Run ID: MA13380
Parameters: Sb,As,Be,Cu,Pb,Ni,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:32	MA13380-STD1	1		STDA
08:36	MA13380-STD2	1		STDB
08:39	MA13380-STD3	1		STDC
08:43	MA13380-STD4	1		STDD
08:47	MA13380-HSTD1	1		
08:54	MA13380-ICV1	1		
09:00	MA13380-ICB1	1		
09:05	MA13380-CRIA1	1		
09:13	MA13380-ICSA1	1		
09:19	MA13380-ICSAB1	1		
09:28	MA13380-CCV1	1		
09:36	MA13380-CCB1	1		
09:40	MP30786-MB1	1		
09:45	MP30786-B1	1		
09:49	FA36481-6	1		(sample used for QC only; not part of login FA36526)
09:54	MP30786-D1	1		
09:59	MP30786-SD1	5		
10:03	MP30786-PS1	1		
10:08	MP30786-S1	1		
10:12	MP30786-S2	1		
10:17	ZZZZZZ	5		
10:21	ZZZZZZ	1		
10:26	MA13380-CCV2	1		
10:30	MA13380-CCB2	1		
10:34	ZZZZZZ	1		
10:39	ZZZZZZ	1		
10:43	ZZZZZZ	1		
10:48	FA36526-1	1		
10:52	FA36526-1F	1		
----->	Last reportable sample/prep for job FA36526			
10:57	ZZZZZZ	1		
11:01	ZZZZZZ	1		
11:06	ZZZZZZ	1		
11:10	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
Analyst: LM Run ID: MA13380
Parameters: Sb,As,Be,Cu,Pb,Ni,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:15	ZZZZZZ	1		
11:19	MA13380-CCV3	1		
11:23	MA13380-CCB3	1		
11:50	MA13380-ICV2	1		
11:56	MA13380-CCV4	1		
12:03	MA13380-CCB4	1		
12:06	ZZZZZZ	1		
12:11	ZZZZZZ	1		
12:15	ZZZZZZ	1		
12:20	ZZZZZZ	1		
12:24	ZZZZZZ	1		
12:29	ZZZZZZ	1		
12:33	FA36474-2	2		(sample used for QC only; not part of login FA36526)
12:38	MP30785-D2	2		
12:42	ZZZZZZ	2		
12:47	ZZZZZZ	4		
12:52	MA13380-CCV5	1		
12:56	MA13380-CCB5	1		
13:00	ZZZZZZ	2		
13:05	ZZZZZZ	4		
13:09	ZZZZZZ	4		
13:14	ZZZZZZ	4		
13:18	ZZZZZZ	4		
13:23	ZZZZZZ	25		
13:32	MP30787-MB1	1		
13:36	MP30787-B1	1		
13:41	FA36516-5R	1		(sample used for QC only; not part of login FA36526)
13:45	MA13380-CCV6	1		
13:49	MA13380-CCB6	1		
13:54	MP30787-D1	1		
13:58	MP30787-SD1	5		
14:02	MP30787-PS1	1		
14:07	MP30787-S1	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
Analyst: LM Run ID: MA13380
Parameters: Sb,As,Be,Cu,Pb,Ni,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:11	MP30787-S2	1		
14:15	ZZZZZZ	1		
14:19	MA13380-CRIA2	1		
14:24	MA13380-ICSA2	1		
14:28	MA13380-ICSAB2	1		
14:33	MA13380-CCV7	1		
14:37	MA13380-CCB7	1		
-----> Last reportable CCB for job FA36526 Refer to raw data for calibration curve and standards.				

INTERNAL STANDARD SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
Analyst: LM Run ID: MA13380
Parameters: Sb,As,Be,Cu,Pb,Ni,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
08:32	MA13380-STD1	5453	47946	4762	2452
08:36	MA13380-STD2	5363	46825	4687	2333
08:39	MA13380-STD3	5206	45541	4618	2162
08:43	MA13380-STD4	5037	44389	4539	2011
08:47	MA13380-HSTD1	5007	44180	4490	1997
08:54	MA13380-ICV1	5229	45542	4574	2167
09:00	MA13380-ICB1	5483 R	47947 R	4690 R	2451 R
09:05	MA13380-CRIA1	5441	46829	4580	2399
09:13	MA13380-ICSA1	4907	41097	4278	1871
09:19	MA13380-ICSAB1	4902	40909	4293	1849
09:28	MA13380-CCV1	5287	45874	4583	2182
09:36	MA13380-CCB1	5588	48333	4753	2488
09:40	MP30786-MB1	5520	48095	4770	2445
09:45	MP30786-B1	5391	46394	4725	2265
09:49	FA36481-6	4896	41559	4567	2005
09:54	MP30786-D1	4887	41520	4573	2000
09:59	MP30786-SD1	5341	45422	4793	2275
10:03	MP30786-PS1	4890	41678	4598	1992
10:08	MP30786-S1	4955	42503	4603	1950
10:12	MP30786-S2	4959	42564	4623	1946
10:17	ZZZZZZ	5293	45124	4791	2191
10:21	ZZZZZZ	5182	44927	4780	2202
10:26	MA13380-CCV2	5324	45656	4727	2169
10:30	MA13380-CCB2	5606	47908	4834	2457
10:34	ZZZZZZ	5286	45227	4742	2277
10:39	ZZZZZZ	5352	46259	4780	2329
10:43	ZZZZZZ	5287	45504	4739	2266
10:48	FA36526-1	5415	46744	4785	2347
10:52	FA36526-1F	5398	46482	4772	2345
10:57	ZZZZZZ	5448	47119	4755	2394
11:01	ZZZZZZ	5420	46648	4791	2350
11:06	ZZZZZZ	5331	45284	4749	2243
11:10	ZZZZZZ	5541	48118	4830	2442

INTERNAL STANDARD SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
Analyst: LM Run ID: MA13380
Parameters: Sb,As,Be,Cu,Pb,Ni,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:15	ZZZZZZ	5530	48233	4801	2446
11:19	MA13380-CCV3	5331	45481	4689	2172
11:23	MA13380-CCB3	5608	48041	4819	2456
11:50	MA13380-ICV2	5341	45543	4673	2166
11:56	MA13380-CCV4	5323	45305	4684	2163
12:03	MA13380-CCB4	5601	47838	4823	2455
12:06	ZZZZZZ	5448	46942	4796	2335
12:11	ZZZZZZ	5090	41525	4480	2031
12:15	ZZZZZZ	5074	41775	4605	2027
12:20	ZZZZZZ	5051	41251	4611	1964
12:24	ZZZZZZ	5253	44593	4747	2241
12:29	ZZZZZZ	4994	42014	4494	1990
12:33	FA36474-2	5380	45516	4749	2271
12:38	MP30785-D2	5362	45575	4786	2274
12:42	ZZZZZZ	5509	47299	5083	1904
12:47	ZZZZZZ	5957	50853	5268	2277
12:52	MA13380-CCV5	5336	45494	4725	2157
12:56	MA13380-CCB5	5604	47818	4844	2451
13:00	ZZZZZZ	6239	53367	5560	2193
13:05	ZZZZZZ	5964	50664	5218	2256
13:09	ZZZZZZ	6073	51694	5301	2251
13:14	ZZZZZZ	6347	54236	5557	2289
13:18	ZZZZZZ	6160	52491	5367	2285
13:23	ZZZZZZ	8462 !	71116 !	7530 !	2370
13:32	MP30787-MB1	5529	48039	4853	2439
13:36	MP30787-B1	5390	46076	4727	2252
13:41	FA36516-5R	6322	53567	5454	2316
13:45	MA13380-CCV6	5337	45240	4662	2163
13:49	MA13380-CCB6	5585	47647	4799	2441
13:54	MP30787-D1	6441	54865	5604	2286
13:58	MP30787-SD1	5756	48987	4997	2409
14:02	MP30787-PS1	6264	53029	5490	2264
14:07	MP30787-S1	6119	51564	5404	2179

INTERNAL STANDARD SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
Analyst: LM Run ID: MA13380
Parameters: Sb,As,Be,Cu,Pb,Ni,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:11	MP30787-S2	6369	53222	5545	2134
14:15	ZZZZZZ	6556	55735	5673	2259
14:19	MA13380-CRIA2	5569	47130	4777	2400
14:24	MA13380-ICSA2	4908	40704	4414	1844
14:28	MA13380-ICSAB2	4881	40504	4346	1813
14:33	MA13380-CCV7	5322	45187	4623	2148
14:37	MA13380-CCB7	5466	46430	4647	2386

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13380 Units: ug/l

Time: Sample ID:			09:00 ICB1		09:36 CCB1		10:30 CCB2		11:23 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1	0.90	<6.0	-0.30	<6.0	0.60	<6.0	0.30	<6.0
Arsenic	10	1.3	0.0	<10	-0.70	<10	0.30	<10	0.10	<10
Barium	200	1	anr							
Beryllium	4.0	.2	0.0	<4.0	0.30	<4.0	0.30	<4.0	0.20	<4.0
Cadmium	5.0	.2	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	.2	anr							
Copper	25	1	-0.20	<25	0.10	<25	-0.20	<25	0.0	<25
Iron	300	17	anr							
Lead	5.0	1	-0.70	<5.0	0.70	<5.0	-0.20	<5.0	0.40	<5.0
Magnesium	5000	35	anr							
Manganese	15	.5	anr							
Molybdenum	50	.3	anr							
Nickel	40	.4	0.0	<40	0.0	<40	0.10	<40	0.0	<40
Potassium	10000	200	anr							
Selenium	10	2.4	anr							
Silver	10	.7	anr							
Sodium	10000	500	anr							
Strontium	10	.5	anr							
Thallium	10	1.1	anr							
Tin	50	.9	anr							
Titanium	10	.5	anr							
Vanadium	50	.5	anr							
Zinc	20	3	-0.20	<20	-0.20	<20	-0.10	<20	-0.30	<20

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13380 Units: ug/l

Time: Sample ID:			12:03 CCB4		12:56 CCB5		13:49 CCB6		14:37 CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14	anr							
Antimony	6.0	1	0.0	<6.0	-0.30	<6.0	0.40	<6.0	0.0	<6.0
Arsenic	10	1.3	-0.40	<10	0.0	<10	0.20	<10	-0.60	<10
Barium	200	1	anr							
Beryllium	4.0	.2	0.20	<4.0	0.30	<4.0	0.40	<4.0	0.30	<4.0
Cadmium	5.0	.2	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	.2	anr							
Copper	25	1	0.20	<25	0.30	<25	0.30	<25	0.30	<25
Iron	300	17	anr							
Lead	5.0	1	0.30	<5.0	0.10	<5.0	0.20	<5.0	0.30	<5.0
Magnesium	5000	35	anr							
Manganese	15	.5	anr							
Molybdenum	50	.3	anr							
Nickel	40	.4	0.40	<40	0.10	<40	0.20	<40	0.20	<40
Potassium	10000	200	anr							
Selenium	10	2.4	anr							
Silver	10	.7	anr							
Sodium	10000	500	anr							
Strontium	10	.5								
Thallium	10	1.1	anr							
Tin	50	.9								
Titanium	10	.5								
Vanadium	50	.5	anr							
Zinc	20	3	0.20	<20	0.30	<20	0.20	<20	0.20	<20

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13380 Units: ug/l

Time: Sample ID:		08:54 ICV1		09:28 CCV1		10:26 CCV2			
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	2000	2040	102.0	2000	1990	99.5	2000	1950	97.5
Arsenic	2000	2050	102.5	2000	1990	99.5	2000	1930	96.5
Barium	anr								
Beryllium	2000	2070	103.5	2000	2000	100.0	2000	2000	100.0
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	2000	2030	101.5	2000	2010	100.5	2000	2040	102.0
Iron	anr								
Lead	2000	2040	102.0	2000	2010	100.5	2000	1980	99.0
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	2000	2070	103.5	2000	2020	101.0	2000	1960	98.0
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium	anr								
Thallium	anr								
Tin	anr								
Titanium	anr								
Vanadium	anr								
Zinc	2000	2080	104.0	2000	2050	102.5	2000	2070	103.5

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA36526
Account: ARCTHEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13380 Units: ug/l

Time: Sample ID:	CCV	11:19 CCV3		ICV	11:50 ICV2		CCV	11:56 CCV4	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	2000	1950	97.5	2000	2030	101.5	2000	2000	100.0
Arsenic	2000	1940	97.0	2000	2040	102.0	2000	2010	100.5
Barium	anr								
Beryllium	2000	2010	100.5	2000	2050	102.5	2000	2020	101.0
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	2000	2040	102.0	2000	2050	102.5	2000	2020	101.0
Iron	anr								
Lead	2000	1990	99.5	2000	2030	101.5	2000	2000	100.0
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	2000	1970	98.5	2000	2060	103.0	2000	2030	101.5
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	2000	2070	103.5	2000	2070	103.5	2000	2040	102.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13380 Units: ug/l

Time: Sample ID:	CCV	12:52 CCV5		CCV	13:45 CCV6		CCV	14:33 CCV7	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	2000	2000	100.0	2000	2000	100.0	2000	1990	99.5
Arsenic	2000	1990	99.5	2000	2010	100.5	2000	2000	100.0
Barium	anr								
Beryllium	2000	2030	101.5	2000	2030	101.5	2000	2030	101.5
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	2000	2030	101.5	2000	2030	101.5	2000	2030	101.5
Iron	anr								
Lead	2000	1980	99.0	2000	2000	100.0	2000	2000	100.0
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	2000	2010	100.5	2000	2030	101.5	2000	2020	101.0
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	2000	2040	102.0	2000	2040	102.0	2000	2060	103.0

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA13380 Units: ug/l

Time:	08:47
Sample ID:	HSTD
Metal	True
	HSTD1
	Results
	% Rec
Aluminum	anr
Antimony	4000 4070 101.8
Arsenic	4000 4090 102.3
Barium	anr
Beryllium	4000 4040 101.0
Cadmium	anr
Calcium	anr
Chromium	anr
Cobalt	anr
Copper	4000 4050 101.3
Iron	anr
Lead	4000 4110 102.8
Magnesium	anr
Manganese	anr
Molybdenum	anr
Nickel	4000 4040 101.0
Potassium	anr
Selenium	anr
Silver	anr
Sodium	anr
Strontium	anr
Thallium	anr
Tin	anr
Titanium	anr
Vanadium	anr
Zinc	4000 4050 101.3

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA13380 Units: ug/l

Time: Sample ID:	CRI	CRIA	09:05 CRIA1	% Rec	14:19 CRIA2	% Rec
Metal	True	True	Results		Results	
Aluminum	400	200	anr			
Antimony	10	5.0	4.9	98.0	5.4	108.0
Arsenic	20	10	9.8	98.0	9.7	97.0
Barium	400	200	anr			
Beryllium	10	5.0	5.2	104.0	5.2	104.0
Cadmium	10	5.0	anr			
Calcium	2000	1000	anr			
Chromium	20	10	anr			
Cobalt	100	50	anr			
Copper	50	25	26.1	104.4	27.8	111.2
Iron	600	300	anr			
Lead	10	5.0	5.4	108.0	5.1	102.0
Magnesium	10000	5000	anr			
Manganese	30	15	anr			
Molybdenum	100	50	anr			
Nickel	80	40	43.8	109.5	43.7	109.3
Potassium	20000	10000	anr			
Selenium	20	10	anr			
Silver	20	10	anr			
Sodium	20000	10000	anr			
Strontium	20	10	anr			
Thallium	20	10	anr			
Tin	100	50	anr			
Titanium	20	10	anr			
Vanadium	100	50	anr			
Zinc	40	20	22.1	110.5	22.9	114.5

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SA090116M1.ICP Date Analyzed: 09/01/16 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA13380 Units: ug/l

Time: Sample ID:	ICSA	ICSAB	09:13 ICSA1	% Rec	09:19 ICSAB1	% Rec	14:24 ICSA2	% Rec	14:28 ICSAB2	% Rec
Metal	True	True	Results		Results		Results		Results	
Aluminum	500000	500000	502000	100.4	505000	101.0	496000	99.2	508000	101.6
Antimony		1000	0.0		1050	105.0	-3.5		1060	106.0
Arsenic		1000	0.10		1130	113.0	-0.10		1110	111.0
Barium		500	0.10		518	103.6	0.50		520	104.0
Beryllium		500	-0.10		506	101.2	-0.20		511	102.2
Cadmium		1000	-0.60		980	98.0	-0.50		951	95.1
Calcium	500000	500000	483000	96.6	498000	99.6	474000	94.8	494000	98.8
Chromium		500	-0.10		527	105.4	0.30		513	102.6
Cobalt		500	0.60		487	97.4	0.70		482	96.4
Copper		500	1.5		529	105.8	3.0		549	109.8
Iron	200000	200000	187000	93.5	186000	93.0	183000	91.5	183000	91.5
Lead		1000	0.0		1040	104.0	0.50		1000	100.0
Magnesium	500000	500000	534000	106.8	532000	106.4	521000	104.2	522000	104.4
Manganese		500	0.50		524	104.8	0.20		510	102.0
Molybdenum		1000	-0.80		1000	100.0	0.20		996	99.6
Nickel		1000	-0.50		974	97.4	-0.10		953	95.3
Potassium			13.4		-31		89.5		60.7	
Selenium		1000	0.0		1060	106.0	-3.9		1050	105.0
Silver		1000	-0.30		1010	101.0	-0.20		1010	101.0
Sodium			142		134		160		181	
Strontium		1000	-0.30		1040	104.0	0.60		1040	104.0
Thallium		1000	0.0		1040	104.0	-5.6		1020	102.0
Tin		1000	3.3		991	99.1	3.8		977	97.7
Titanium		1000	-0.70		1070	107.0	-0.30		1050	105.0
Vanadium		500	0.10		489	97.8	0.40		481	96.2
Zinc		1000	-1.0		997	99.7	-1.2		960	96.0

(*) Outside of QC limits
(anr) Analyte not requested

SGS Accutest Instrument Runlog
Inorganics AnalysesLogin Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TXFile ID: SB090216M1.ICP
Analyst: LM
Parameters: Sb,Pb,ZnDate Analyzed: 09/02/16 Methods: SW846 6010C
Run ID: MA13383

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:24	MA13383-STD1	1		STDA
08:27	MA13383-STD2	1		STDB
08:31	MA13383-STD3	1		STDC
08:35	MA13383-STD4	1		STDD
08:40	MA13383-HSTD1	1		
08:47	MA13383-ICV1	1		
08:56	MA13383-ICB1	1		
09:03	MA13383-CRIA1	1		
09:09	MA13383-ICSA1	1		
09:16	MA13383-ICSAB1	1		
09:26	MA13383-CCV1	1		
09:33	MA13383-CCB1	1		
09:38	MP30788-MB1	1		
09:42	MP30788-B1	1		
09:46	C46963-1	5		(sample used for QC only; not part of login FA36526)
09:50	MP30788-D1	5		
09:55	MP30788-SD1	25		
09:59	MP30788-PS1	5		
10:03	MP30788-S1	5		
10:07	MP30788-S2	5		
10:12	ZZZZZZ	5		
10:16	ZZZZZZ	5		
10:20	MA13383-CCV2	1		
10:24	MA13383-CCB2	1		
10:28	ZZZZZZ	5		
10:32	ZZZZZZ	5		
10:36	ZZZZZZ	5		
10:40	ZZZZZZ	5		
10:44	ZZZZZZ	5		
10:48	ZZZZZZ	5		
10:53	ZZZZZZ	5		
10:57	ZZZZZZ	5		
11:01	ZZZZZZ	5		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA36526
Account: ARCTHEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
Analyst: LM Run ID: MA13383
Parameters: Sb,Pb,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:05	ZZZZZZ	5		
11:09	MA13383-CCV3	1		
11:13	MA13383-CCB3	1		
11:17	ZZZZZZ	5		
11:21	ZZZZZZ	5		
11:26	ZZZZZZ	5		
11:30	ZZZZZZ	5		
11:34	ZZZZZZ	5		
11:38	ZZZZZZ	5		
11:42	ZZZZZZ	5		
11:51	FA36481-6	2		(sample used for QC only; not part of login FA36526)
11:55	MP30786-D1	2		
11:59	MA13383-CCV4	1		
12:03	MA13383-CCB4	1		
12:08	MP30786-S1	2		
12:12	MP30786-S2	2		
12:16	MP30786-PS1	2		
12:20	MP30786-SD1	10		
----->	Last reportable sample/prep for job FA36526			
12:25	ZZZZZZ	10		
12:29	ZZZZZZ	2		
12:33	ZZZZZZ	5		
12:37	ZZZZZZ	100		
12:41	ZZZZZZ	20		
12:59	MA13383-CCV5	1		
13:03	MA13383-CCB5	1		
13:18	MP30789-MB1	1		
13:22	MP30789-B1	1		
13:26	C46963-23	5		(sample used for QC only; not part of login FA36526)
13:30	MP30789-D1	5		
13:34	MP30789-SD1	25		
13:38	MP30789-PS1	5		
13:42	MP30789-S1	5		
13:46	MP30789-S2	5		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA36526
Account: ARCTHEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
Analyst: LM Run ID: MA13383
Parameters: Sb,Pb,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:51	ZZZZZZ	5		
13:55	ZZZZZZ	5		
13:59	MA13383-CCV6	1		
14:03	MA13383-CCB6	1		
14:40	MA13383-ICV2	1		
14:45	MA13383-CCV7	1		
14:51	MA13383-CCB7	1		
14:55	ZZZZZZ	5		
14:59	ZZZZZZ	5		
15:04	ZZZZZZ	5		
15:08	ZZZZZZ	5		
15:12	ZZZZZZ	5		
15:16	ZZZZZZ	5		
15:20	ZZZZZZ	5		
15:25	ZZZZZZ	5		
15:29	ZZZZZZ	5		
15:33	ZZZZZZ	5		
15:37	MA13383-CCV8	1		
15:41	MA13383-CCB8	1		
15:46	ZZZZZZ	5		
15:50	ZZZZZZ	5		
15:54	ZZZZZZ	5		
15:58	ZZZZZZ	5		
16:02	ZZZZZZ	5		
16:06	ZZZZZZ	5		
16:11	ZZZZZZ	5		
16:27	MA13383-CCV9	1		
16:31	MA13383-CCB9	1		
16:57	MP30794-MB1	1		
17:01	MP30794-B1	1		
17:05	FA36290-1R	5		(sample used for QC only; not part of login FA36526)
17:09	MP30794-D1	5		
17:13	MP30794-SD1	25		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
Analyst: LM Run ID: MA13383
Parameters: Sb,Pb,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:18	MA13383-CCV10	1		
17:22	MA13383-CCB10	1		
17:26	MP30794-PS1	5		
17:30	MP30794-S1	5		
17:34	MP30794-S2	5		
17:39	ZZZZZZ	5		
17:43	ZZZZZZ	5		
17:47	ZZZZZZ	5		
17:52	ZZZZZZ	5		
17:56	ZZZZZZ	5		
18:00	ZZZZZZ	5		
18:04	ZZZZZZ	5		
18:08	MA13383-CCV11	1		
18:12	MA13383-CCB11	1		
18:16	ZZZZZZ	5		
18:20	ZZZZZZ	5		
18:24	ZZZZZZ	5		
18:29	ZZZZZZ	5		
18:45	MA13383-CRIA2	1		
18:49	MA13383-ICSA2	1		
18:54	MA13383-ICSAB2	1		
18:58	MA13383-CCV12	1		
19:02	MA13383-CCB12	1		
19:06	MA13383-CCV13	1		
19:10	MA13383-CCB13	1		

-----> Last reportable CCB for job FA36526

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SB090216M1.ICP
Analyst: LM
Parameters: Sb,Pb,Zn

Date Analyzed: 09/02/16
Run ID: MA13383
Methods: SW846 6010C

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
08:24	MA13383-STD1	7651	54898	7828	2716
08:27	MA13383-STD2	7582	54340	7826	2596
08:31	MA13383-STD3	7386	53381	7774	2429
08:35	MA13383-STD4	7148	52106	7675	2292
08:40	MA13383-HSTD1	7156	52106	7665	2294
08:47	MA13383-ICV1	7366	53151	7627	2428
08:56	MA13383-ICB1	7630 R	54832 R	7776 R	2719 R
09:03	MA13383-CRIA1	7583	54493	7843	2648
09:09	MA13383-ICSA1	6799	48452	7479	2142
09:16	MA13383-ICSAB1	6744	48569	7417	2115
09:26	MA13383-CCV1	7329	53131	7715	2431
09:33	MA13383-CCB1	7597	54557	7712	2713
09:38	MP30788-MB1	7488	54166	7667	2662
09:42	MP30788-B1	7274	52481	7503	2453
09:46	C46963-1	7853	56097	8245	2487
09:50	MP30788-D1	7883	55951	8358	2432
09:55	MP30788-SD1	7753	54578	7839	2633
09:59	MP30788-PS1	7875	55351	8192	2456
10:03	MP30788-S1	7905	55607	8248	2385
10:07	MP30788-S2	7917	55918	8204	2404
10:12	ZZZZZZ	8209	57957	8451	2423
10:16	ZZZZZZ	8003	56916	8234	2473
10:20	MA13383-CCV2	7379	52931	7533	2411
10:24	MA13383-CCB2	7637	54298	7580	2694
10:28	ZZZZZZ	8194	58121	8327	2458
10:32	ZZZZZZ	8376	59265	8494	2435
10:36	ZZZZZZ	8027	56951	8160	2490
10:40	ZZZZZZ	7842	55112	8032	2470
10:44	ZZZZZZ	8210	58208	8348	2478
10:48	ZZZZZZ	8229	58288	8273	2458
10:53	ZZZZZZ	7944	56054	7862	2511
10:57	ZZZZZZ	8366	58390	8324	2441
11:01	ZZZZZZ	8581	60060	8505	2455

INTERNAL STANDARD SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SB090216M1.ICP
Analyst: LM
Parameters: Sb,Pb,Zn

Date Analyzed: 09/02/16 Methods: SW846 6010C
Run ID: MA13383

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
11:05	ZZZZZZ	7854	54538	7879	2437
11:09	MA13383-CCV3	7384	52597	7375	2401
11:13	MA13383-CCB3	7658	53983	7374	2684
11:17	ZZZZZZ	8547	59904	8467	2471
11:21	ZZZZZZ	8079	56936	8022	2428
11:26	ZZZZZZ	7916	55357	7812	2489
11:30	ZZZZZZ	8048	56469	7895	2506
11:34	ZZZZZZ	8329	58622	8329	2453
11:38	ZZZZZZ	7831	54896	7881	2421
11:42	ZZZZZZ	8369	59368	8387	2452
11:51	FA36481-6	7110	50820	7334	2364
11:55	MP30786-D1	7111	51178	7230	2364
11:59	MA13383-CCV4	7339	52833	7361	2420
12:03	MA13383-CCB4	7594	55066	7546	2714
12:08	MP30786-S1	7135	51136	7307	2328
12:12	MP30786-S2	7182	51021	7334	2331
12:16	MP30786-PS1	7117	50868	7185	2362
12:20	MP30786-SD1	7524	53728	7420	2587
12:25	ZZZZZZ	7515	53576	7461	2561
12:29	ZZZZZZ	7504	53691	7479	2548
12:33	ZZZZZZ	7474	53732	7376	2550
12:37	ZZZZZZ	8776	62406	8777	2678
12:41	ZZZZZZ	7775	55181	7638	2713
12:59	MA13383-CCV5	7372	52501	7336	2404
13:03	MA13383-CCB5	7643	53880	7370	2680
13:18	MP30789-MB1	7435	52448	7073	2604
13:22	MP30789-B1	7223	51538	7013	2418
13:26	C46963-23	8132	57465	8048	2421
13:30	MP30789-D1	8433	60063	8457	2431
13:34	MP30789-SD1	7719	55077	7598	2609
13:38	MP30789-PS1	8106	57332	8126	2417
13:42	MP30789-S1	8152	57531	8129	2411
13:46	MP30789-S2	8294	58701	8288	2425

INTERNAL STANDARD SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SB090216M1.ICP
Analyst: LM
Parameters: Sb,Pb,Zn

Date Analyzed: 09/02/16 Methods: SW846 6010C
Run ID: MA13383

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:51	ZZZZZZ	7968	55840	7847	2456
13:55	ZZZZZZ	7890	55467	7762	2463
13:59	MA13383-CCV6	7336	52569	7225	2413
14:03	MA13383-CCB6	7586	54165	7331	2695
14:40	MA13383-ICV2	7244	52424	7338	2411
14:45	MA13383-CCV7	7230	52620	7297	2415
14:51	MA13383-CCB7	7500	54347	7324	2699
14:55	ZZZZZZ	7980	57727	8057	2456
14:59	ZZZZZZ	7790	55903	7922	2417
15:04	ZZZZZZ	8400	60269	8498	2417
15:08	ZZZZZZ	7865	57122	8042	2446
15:12	ZZZZZZ	8161	59029	8241	2479
15:16	ZZZZZZ	8497	61763	8635	2449
15:20	ZZZZZZ	8064	58612	8149	2507
15:25	ZZZZZZ	7637	54432	7714	2417
15:29	ZZZZZZ	7890	56776	7987	2431
15:33	ZZZZZZ	7795	56992	7926	2386
15:37	MA13383-CCV8	7203	53170	7193	2428
15:41	MA13383-CCB8	7523	54370	7335	2713
15:46	ZZZZZZ	7979	58116	7972	2528
15:50	ZZZZZZ	7864	57085	7869	2492
15:54	ZZZZZZ	8371	61014	8534	2336
15:58	ZZZZZZ	7703	55972	7798	2422
16:02	ZZZZZZ	8238	59507	8286	2453
16:06	ZZZZZZ	7929	57496	8006	2374
16:11	ZZZZZZ	8077	58873	8005	2516
16:27	MA13383-CCV9	7361	53794	7339	2461
16:31	MA13383-CCB9	7583	55232	7371	2741
16:57	MP30794-MB1	7462	55141	7366	2699
17:01	MP30794-B1	7277	53209	7284	2498
17:05	FA36290-1R	7985	57491	7903	2589
17:09	MP30794-D1	7965	57762	7928	2588
17:13	MP30794-SD1	7673	56060	7495	2701

INTERNAL STANDARD SUMMARY

Login Number: FA36526
 Account: ARCTXEL - Arcadis-US, Inc
 Project: Castner Firing Range; Ft Bliss, TX

File ID: SB090216M1.ICP
 Analyst: LM
 Parameters: Sb,Pb,Zn

Date Analyzed: 09/02/16
 Run ID: MA13383
 Methods: SW846 6010C

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:18	MA13383-CCV10	7314	53710	7356	2461
17:22	MA13383-CCB10	7593	55492	7453	2746
17:26	MP30794-PS1	7953	57819	7916	2557
17:30	MP30794-S1	7939	57837	7979	2534
17:34	MP30794-S2	7907	58184	7902	2541
17:39	ZZZZZZ	8045	58571	7975	2568
17:43	ZZZZZZ	8010	58400	7929	2574
17:47	ZZZZZZ	7067	51990	7265	2291
17:52	ZZZZZZ	7896	57833	7885	2489
17:56	ZZZZZZ	8083	58675	7890	2547
18:00	ZZZZZZ	7624	55311	7648	2502
18:04	ZZZZZZ	8062	58878	7951	2525
18:08	MA13383-CCV11	7283	53558	7241	2446
18:12	MA13383-CCB11	7531	54819	7300	2728
18:16	ZZZZZZ	8003	58504	7947	2471
18:20	ZZZZZZ	7856	57348	7670	2555
18:24	ZZZZZZ	7844	57674	7747	2453
18:29	ZZZZZZ	8100	59131	7928	2537
18:45	MA13383-CRIA2	7488	54591	7194	2647
18:49	MA13383-ICSA2	6781	48833	6885	2145
18:54	MA13383-ICSAB2	6767	48390	6837	2113
18:58	MA13383-CCV12	7275	52730	7101	2423
19:02	MA13383-CCB12	7540	54682	7168	2707
19:06	MA13383-CCV13	7259	52986	7047	2420
19:10	MA13383-CCB13	7542	55150	7148	2710

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	60-125 %
Istd#2	Yttrium (3600)	60-125 %
Istd#3	Yttrium (3710)	60-125 %
Istd#4	Indium	60-125 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range, Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13383 Units: ug/l

Time: Sample ID:			08:56 ICB1		09:33 CCB1		10:24 CCB2		11:13 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14								
Antimony	6.0	1	-0.10	<6.0	0.10	<6.0	0.0	<6.0	0.20	<6.0
Arsenic	10	1.3	anr							
Barium	200	1	anr							
Beryllium	4.0	.2	anr							
Cadmium	5.0	.2	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	.2	anr							
Copper	25	1	anr							
Iron	300	17								
Lead	5.0	1	0.30	<5.0	0.20	<5.0	0.30	<5.0	-0.10	<5.0
Magnesium	5000	35								
Manganese	15	.5	anr							
Molybdenum	50	.3	anr							
Nickel	40	.4	anr							
Potassium	10000	200	anr							
Selenium	10	2.4	anr							
Silver	10	.7	anr							
Sodium	10000	500	anr							
Strontium	10	.5								
Thallium	10	1.1	anr							
Tin	50	.9								
Titanium	10	.5								
Vanadium	50	.5	anr							
Zinc	20	3	-0.10	<20	0.0	<20	0.0	<20	0.0	<20

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13383 Units: ug/l

Time: Sample ID:			12:03 CCB4		13:03 CCB5		14:03 CCB6		14:51 CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14								
Antimony	6.0	1	0.70	<6.0	0.90	<6.0	0.10	<6.0	0.10	<6.0
Arsenic	10	1.3	anr							
Barium	200	1	anr							
Beryllium	4.0	.2	anr							
Cadmium	5.0	.2	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	.2	anr							
Copper	25	1	anr							
Iron	300	17								
Lead	5.0	1	0.0	<5.0	0.20	<5.0	0.10	<5.0	0.40	<5.0
Magnesium	5000	35								
Manganese	15	.5	anr							
Molybdenum	50	.3	anr							
Nickel	40	.4	anr							
Potassium	10000	200	anr							
Selenium	10	2.4	anr							
Silver	10	.7	anr							
Sodium	10000	500	anr							
Strontium	10	.5								
Thallium	10	1.1	anr							
Tin	50	.9								
Titanium	10	.5								
Vanadium	50	.5	anr							
Zinc	20	3	0.0	<20	0.0	<20	0.0	<20	0.10	<20

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range, Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13383 Units: ug/l

Time: Sample ID:			15:41 CCB8		16:31 CCB9		17:22 CCB10		18:12 CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	14								
Antimony	6.0	1	0.0	<6.0	0.0	<6.0	0.60	<6.0	0.30	<6.0
Arsenic	10	1.3	anr							
Barium	200	1	anr							
Beryllium	4.0	.2	anr							
Cadmium	5.0	.2	anr							
Calcium	1000	50	anr							
Chromium	10	1	anr							
Cobalt	50	.2	anr							
Copper	25	1	anr							
Iron	300	17								
Lead	5.0	1	0.10	<5.0	0.70	<5.0	0.10	<5.0	0.10	<5.0
Magnesium	5000	35								
Manganese	15	.5	anr							
Molybdenum	50	.3	anr							
Nickel	40	.4	anr							
Potassium	10000	200	anr							
Selenium	10	2.4	anr							
Silver	10	.7	anr							
Sodium	10000	500	anr							
Strontium	10	.5								
Thallium	10	1.1	anr							
Tin	50	.9								
Titanium	10	.5								
Vanadium	50	.5	anr							
Zinc	20	3	0.10	<20	0.10	<20	0.10	<20	0.10	<20

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: result < RL Run ID: MA13383 Units: ug/l

Time: Sample ID:		19:02 CCB12		
Metal	RL	IDL	raw	final
Aluminum	200	14		
Antimony	6.0	1	0.30	<6.0
Arsenic	10	1.3	anr	
Barium	200	1	anr	
Beryllium	4.0	.2	anr	
Cadmium	5.0	.2	anr	
Calcium	1000	50	anr	
Chromium	10	1	anr	
Cobalt	50	.2	anr	
Copper	25	1	anr	
Iron	300	17		
Lead	5.0	1	0.40	<5.0
Magnesium	5000	35		
Manganese	15	.5	anr	
Molybdenum	50	.3	anr	
Nickel	40	.4	anr	
Potassium	10000	200	anr	
Selenium	10	2.4	anr	
Silver	10	.7	anr	
Sodium	10000	500	anr	
Strontium	10	.5		
Thallium	10	1.1	anr	
Tin	50	.9		
Titanium	10	.5		
Vanadium	50	.5	anr	
Zinc	20	3	0.10	<20

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13383 Units: ug/l

Time: Sample ID:		08:47 ICV1		09:26 CCV1		10:20 CCV2			
Metal	ICV	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum			102.0			100.0			101.5
Antimony	2000	2040		2000	2000		2000	2030	
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron			101.5			99.5			101.5
Lead	2000	2030		2000	1990		2000	2030	
Magnesium									
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	2000	2070	103.5	2000	2030	101.5	2000	2050	102.5

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13383 Units: ug/l

Time:		11:09		11:59		12:59			
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	2000	2060	103.0	2000	2040	102.0	2000	2050	102.5
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron									
Lead	2000	2050	102.5	2000	2030	101.5	2000	2050	102.5
Magnesium									
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	2000	2060	103.0	2000	2060	103.0	2000	2070	103.5

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13383 Units: ug/l

Time:		13:59		14:40		14:45			
Sample ID:	CCV	CCV6		ICV	ICV2		CCV	CCV7	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	2000	2030	101.5	2000	2040	102.0	2000	2000	100.0
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron									
Lead	2000	2030	101.5	2000	2030	101.5	2000	2000	100.0
Magnesium									
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	2000	2060	103.0	2000	2070	103.5	2000	2040	102.0

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13383 Units: ug/l

Time: Sample ID:		15:37 CCV8		16:27 CCV9		17:18 CCV10			
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	2000	1990	99.5	2000	1980	99.0	2000	2010	100.5
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron									
Lead	2000	1970	98.5	2000	1970	98.5	2000	1980	99.0
Magnesium									
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	2000	2030	101.5	2000	2010	100.5	2000	2030	101.5

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA13383 Units: ug/l

Time: Sample ID:		CCV	18:08 CCV11		CCV	18:58 CCV12	
Metal		True	Results	% Rec	True	Results	% Rec
Aluminum							
Antimony	2000	2000	100.0	2000	2020	101.0	
Arsenic	anr						
Barium	anr						
Beryllium	anr						
Cadmium	anr						
Calcium	anr						
Chromium	anr						
Cobalt	anr						
Copper	anr						
Iron							
Lead	2000	1980	99.0	2000	2000	100.0	
Magnesium							
Manganese	anr						
Molybdenum	anr						
Nickel	anr						
Potassium	anr						
Selenium	anr						
Silver	anr						
Sodium	anr						
Strontium							
Thallium	anr						
Tin							
Titanium							
Vanadium	anr						
Zinc	2000	2030	101.5	2000	2040	102.0	

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA13383 Units: ug/l

Time:		08:40	
Sample ID:		HSTD1	
Metal	HSTD	Results	% Rec
Aluminum	True		
Antimony	4000	4010	100.3
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron			
Lead	4000	4020	100.5
Magnesium			
Manganese	anr		
Molybdenum	anr		
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Vanadium	anr		
Zinc	4000	3960	99.0

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA13383 Units: ug/l

Time: Sample ID:	CRI	CRIA	09:03 CRIA1	% Rec	18:45 CRIA2	% Rec
Metal	True	True	Results		Results	
Aluminum	400	200				
Antimony	10	5.0	5.3	106.0	5.7	114.0
Arsenic	20	10	anr			
Barium	400	200	anr			
Beryllium	10	5.0	anr			
Cadmium	10	5.0	anr			
Calcium	2000	1000	anr			
Chromium	20	10	anr			
Cobalt	100	50	anr			
Copper	50	25	anr			
Iron	600	300				
Lead	10	5.0	5.7	114.0	6.3	126.0
Magnesium	10000	5000				
Manganese	30	15	anr			
Molybdenum	100	50	anr			
Nickel	80	40	anr			
Potassium	20000	10000	anr			
Selenium	20	10	anr			
Silver	20	10	anr			
Sodium	20000	10000	anr			
Strontium	20	10				
Thallium	20	10	anr			
Tin	100	50				
Titanium	20	10				
Vanadium	100	50	anr			
Zinc	40	20	22.2	111.0	23.7	118.5

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

File ID: SB090216M1.ICP Date Analyzed: 09/02/16 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA13383 Units: ug/l

Time: Sample ID:	ICSA	ICSAB	09:09 ICSAB1		09:16 ICSAB1		18:49 ICSAB2		18:54 ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	492000	98.4	497000	99.4	497000	99.4	503000	100.6
Antimony		1000	0.60		1060	106.0	0.30		1070	107.0
Arsenic		1000	1.8		1170	117.0	1.0		1140	114.0
Barium		500	-0.30		519	103.8	-0.10		522	104.4
Beryllium		500	0.0		492	98.4	0.10		498	99.6
Cadmium		1000	0.0		973	97.3	0.0		970	97.0
Calcium	500000	500000	467000	93.4	479000	95.8	470000	94.0	491000	98.2
Chromium		500	0.20		514	102.8	0.60		517	103.4
Cobalt		500	0.50		490	98.0	0.60		489	97.8
Copper		500	0.0		529	105.8	-0.40		543	108.6
Iron	200000	200000	181000	90.5	180000	90.0	180000	90.0	182000	91.0
Lead		1000	0.10		988	98.8	1.8		1000	100.0
Magnesium	500000	500000	506000	101.2	506000	101.2	501000	100.2	499000	99.8
Manganese		500	-0.10		501	100.2	-0.20		513	102.6
Molybdenum		1000	0.10		997	99.7	0.0		1010	101.0
Nickel		1000	0.0		959	95.9	0.30		974	97.4
Potassium			71.6		86.8		107		60.9	
Selenium		1000	0.0		1040	104.0	-3.8		1070	107.0
Silver		1000	-0.50		975	97.5	-0.30		965	96.5
Sodium			177		184		178		163	
Strontium		1000	0.20		1040	104.0	0.20		1050	105.0
Thallium		1000	1.4		1020	102.0	0.0		1040	104.0
Tin		1000	2.9		1000	100.0	3.1		987	98.7
Titanium		1000	1.0		1050	105.0	0.70		1080	108.0
Vanadium		500	0.20		481	96.2	0.50		480	96.0
Zinc		1000	-0.50		965	96.5	-0.50		966	96.6

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: FA36526
 Account: ARCTXEL - Arcadis-US, Inc
 Project: Castner Firing Range/ Ft Bliss, TX

QC Batch ID: MP30786
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 08/31/16

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	14	14		
Antimony	6.0	1	1	0.30	<6.0
Arsenic	10	1.3	1.3	-1.9	<10
Barium	200	1	1		
Beryllium	4.0	.2	.2	0.0	<4.0
Cadmium	5.0	.2	.2		
Calcium	1000	50	50		
Chromium	10	1	1		
Cobalt	50	.2	.2		
Copper	25	1	1	-0.40	<25
Iron	300	17	17		
Lead	5.0	1	1.1	0.30	<5.0
Magnesium	5000	35	35		
Manganese	15	.5	1		
Molybdenum	50	.3	.3		
Nickel	40	.4	.4	-0.30	<40
Potassium	10000	200	200		
Selenium	10	2.4	2.9		
Silver	10	.7	.7		
Sodium	10000	500	500		
Strontium	10	.5	.5		
Thallium	10	1.1	1.4		
Tin	50	.9	1		
Titanium	10	.5	1		
Vanadium	50	.5	.6		
Zinc	20	3	4.4	0.60	<20

Associated samples MP30786: FA36526-1, FA36526-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

QC Batch ID: MP30786
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

08/31/16

08/31/16

Metal	FA36481-6 Original DUP		RPD	QC Limits	FA36481-6 Original MS		Spikelot MPFLICP2 % Rec		QC Limits
Aluminum	anr								
Antimony	3.4	4.6 (a)	30.0 (b)	0-20	3.4	516 (a)	500	102.5	80-120
Arsenic	0.0	0.0	NC	0-20	0.0	1930	2000	96.5	80-120
Barium	anr								
Beryllium	0.0	0.0	NC	0-20	0.0	49.9	50	99.8	80-120
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	1.7	2.0	16.2	0-20	2.0	262	250	104.1	80-120
Iron	anr								
Lead	0.0	0.0 (a)	NC	0-20	0.0	500 (a)	500	100.0	80-120
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	0.40	0.0	200.0(b)	0-20	0.40	461	500	92.1	80-120
Potassium	anr								
Selenium	anr								
Silver	anr								
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	56.2	19.7 (a)	94.2 (b)	0-20	56.2	516 (a)	500	92.2	80-120

Associated samples MP30786: FA36526-1, FA36526-1F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Elevated reporting limit(s) due to matrix interference.

(b) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA36526
 Account: ARCTXEL - Arcadis-US, Inc
 Project: Castner Firing Range/ Ft Bliss, TX

QC Batch ID: MP30786
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 08/31/16

Metal	FA36481-6 Original MSD	Spikelot MPFLICP2 % Rec			MSD RPD	QC Limit
Aluminum	anr					
Antimony	3.4	540 (a)	500	107.3	4.5	20
Arsenic	0.0	2020	2000	101.0	4.6	20
Barium	anr					
Beryllium	0.0	52.2	50	104.4	4.5	20
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	2.0	275	250	109.3	4.8	20
Iron	anr					
Lead	0.0	525 (a)	500	105.0	4.9	20
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	0.40	483	500	96.5	4.7	20
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium	anr					
Zinc	56.2	539 (a)	500	96.8	4.4	20

Associated samples MP30786: FA36526-1, FA36526-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested
 (a) Elevated reporting limit(s) due to matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: FA36526
Account: ARCTXEL - Arcadis-US, Inc
Project: Castner Firing Range/ Ft Bliss, TX

QC Batch ID: MP30786
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/31/16

Metal	BSP Result	Spikelot MPFLICP2	% Rec	QC Limits
Aluminum	anr			
Antimony	455	500	91.0	80-120
Arsenic	1780	2000	89.0	80-120
Barium	anr			
Beryllium	47.7	50	95.4	80-120
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	244	250	97.6	80-120
Iron	anr			
Lead	451	500	90.2	80-120
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	466	500	93.2	80-120
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	479	500	95.8	80-120

Associated samples MP30786: FA36526-1, FA36526-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: FA36526
 Account: ARCTXEL - Arcadis-US, Inc
 Project: Castner Firing Range, Ft Bliss, TX

QC Batch ID: MP30786
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date: 08/31/16

Metal	FA36481-6 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	3.40	0.00	100.0(a)	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	0.00	0.00	NC	0-10
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	2.00	0.00	100.0(a)	0-10
Iron	anr			
Lead	0.00	0.00	NC	0-10
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	0.400	0.00	100.0(a)	0-10
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	56.2	99.4	81.4 (a)	0-10

Associated samples MP30786: FA36526-1, FA36526-1F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: FA36526
 Account: ARCTXEL - Arcadis-US, Inc
 Project: Castner Firing Range/ Ft Bliss, TX

QC Batch ID: MP30786
 Matrix Type: AQUEOUS

Methods: SW846 6010C
 Units: ug/l

Prep Date:

08/31/16

Metal	Sample ml	Final ml	FA36481-6 Raw	PS Corr.** ug/l	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony	9.8	10	1	3.332	110.6	0.2	5	100	107.3	80-120
Arsenic	9.8	10			107.1	0.2	5	100	107.1	80-120
Barium										
Beryllium	9.8	10			52	0.2	2.5	50	104.0	80-120
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper	9.8	10	1.7	1.666	116.7	0.2	5	100	115.0	80-120
Iron										
Lead	9.8	10			48	0.2	2.5	50	96.0	80-120
Magnesium										
Manganese										
Molybdenum										
Nickel	9.8	10		.392	100.5	0.2	5	100	100.1	80-120
Potassium										
Selenium										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc	9.8	10	56.2	53.704	318.3	0.2	12.5	250	105.8	80-120

Associated samples MP30786: FA36526-1, FA36526-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (**) Corr. sample result = Raw * (sample volume / final volume)
 (anr) Analyte not requested

Instrument Detection Limits

Page 1 of 2

Job Number: FA36526

Account: ARCTXEL Arcadis-US, Inc

Project: Castner Firing Range; Ft Bliss, TX

Instrument ID: SSTRACE1

Effective Date: 01/27/15

Analyte	IDL ug/l
Aluminum	14
Antimony	1
Arsenic	1.3
Barium	1
Beryllium	.2
Cadmium	.2
Calcium	50
Chromium	1
Cobalt	.2
Copper	1
Iron	17
Lead	1
Magnesium	35
Manganese	.5
Molybdenum	.3
Nickel	.4
Potassium	200
Selenium	2.4
Silicon	5
Silver	.7
Sodium	500
Strontium	.5
Sulfur	5
Thallium	1.1
Tin	.9
Titanium	.5
Vanadium	.5
Zinc	3

The above applies to the following instrument runs:

MA13380

Instrument Detection Limits

Page 2 of 2

Job Number: FA36526

Account: ARCTXEL Arcadis-US, Inc

Project: Castner Firing Range; Ft Bliss, TX

Instrument ID: SSTRACE2

Effective Date: 01/27/15

Analyte	IDL ug/l
Aluminum	14
Antimony	1
Arsenic	1.3
Barium	1
Beryllium	.2
Cadmium	.2
Calcium	50
Chromium	1
Cobalt	.2
Copper	1
Iron	17
Lead	1
Magnesium	35
Manganese	.5
Molybdenum	.3
Nickel	.4
Potassium	200
Selenium	2.4
Silicon	5
Silver	.7
Sodium	500
Strontium	.5
Sulfur	5
Thallium	1.1
Tin	.9
Titanium	.5
Vanadium	.5
Zinc	3

The above applies to the following instrument runs:

MA13383

Instrument Linear Ranges

Page 1 of 2

Job Number: FA36526

Account: ARCTXEL Arcadis-US, Inc

Project: Castner Firing Range; Ft Bliss, TX

Instrument ID: SSTRACE1

Effective Date: 08/13/13

Analyte	Linear Range ug/l
Aluminum	500000
Antimony	10000
Arsenic	10000
Barium	10000
Beryllium	10000
Cadmium	10000
Calcium	500000
Chromium	10000
Cobalt	10000
Copper	10000
Iron	500000
Lead	10000
Magnesium	500000
Manganese	10000
Molybdenum	10000
Nickel	10000
Potassium	80000
Selenium	10000
Silver	1000
Sodium	80000
Strontium	10000
Sulfur	10000
Thallium	10000
Tin	10000
Titanium	10000
Vanadium	10000
Zinc	10000

The above applies to the following instrument runs:
MA13380

Instrument Linear Ranges

Page 2 of 2

Job Number: FA36526
Account: ARCTXEL Arcadis-US, Inc
Project: Castner Firing Range; Ft Bliss, TX

Instrument ID: SSTRACE2	Effective Date: 10/22/10
--------------------------------	---------------------------------

Analyte	Linear Range ug/l
Aluminum	500000
Antimony	10000
Arsenic	10000
Barium	10000
Beryllium	10000
Cadmium	10000
Calcium	500000
Chromium	10000
Cobalt	10000
Copper	10000
Iron	500000
Lead	10000
Magnesium	500000
Manganese	10000
Molybdenum	10000
Nickel	10000
Potassium	80000
Selenium	10000
Silver	1000
Sodium	80000
Strontium	10000
Thallium	10000
Tin	10000
Titanium	10000
Vanadium	10000
Zinc	10000

The above applies to the following instrument runs:
MA13383



Metals Analysis

Raw Data

7

[Zoom In](#)
[Zoom Out](#)

Sample Name: Blank Acquired: 9/1/2016 8:32:51 Type: Cal
Method: 60102007_042011(v271) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0.003	.0023	-0.004	.0029	.0018	.0073	-0.011	-0.004	-0.002
Stddev	.0001	.0020	.0001	.0019	.0002	.0004	.0002	.0001	.0001
%RSD	27.22	89.92	14.91	64.90	13.42	5.356	23.72	30.00	29.97

#1	-0.002	.0043	-0.005	.0027	.0019	.0071	-0.008	-0.005	-0.001
#2	-0.002	.0002	-0.004	.0048	.0015	.0077	-0.012	-0.003	-0.002
#3	-0.004	.0024	-0.004	.0011	.0019	.0070	-0.012	-0.003	-0.002

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0054	.0018	-0.0070	.0000	.0005	.0016	.0065	-0.005	-0.002
Stddev	.0001	.0001	.0027	.0003	.0000	.0001	.0022	.0002	.0004
%RSD	2.644	6.609	39.17	1015.	6.161	8.572	34.44	46.79	238.0

#1	.0053	.0018	-0.039	.0001	.0005	.0018	.0089	-0.002	-0.005
#2	.0055	.0018	-0.083	.0003	.0005	.0015	.0044	-0.005	.0002
#3	.0054	.0016	-0.089	-0.003	.0005	.0015	.0063	-0.007	-0.002

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0006	-0.004	.0041	.0006	.0012	.0019	-0.015	-0.005	.0008
Stddev	.0002	.0002	.0002	.0001	.0008	.0001	.0003	.0002	.0002
%RSD	41.05	43.14	3.794	24.41	66.37	5.330	20.08	39.01	26.82

#1	.0004	-0.005	.0041	.0007	.0021	.0020	-0.012	-0.005	.0011
#2	.0008	-0.004	.0043	.0005	.0009	.0018	-0.015	-0.006	.0006
#3	.0005	-0.002	.0040	.0005	.0006	.0019	-0.019	-0.003	.0008

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2451.5	5452.5	47946.	4761.6
Stddev	3.7	2.6	148.	10.6
%RSD	.15114	.04785	.30763	.22201

#1	2455.2	5455.3	47809.	4762.2
#2	2447.7	5452.1	47927.	4750.8
#3	2451.7	5450.1	48102.	4771.9

Raw Data MA13380 page 1 of 101

[Zoom In](#)
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Sample Name: MidStd Acquired: 9/1/2016 8:39:56 Type: Cal
Method: 60102007_042011(v271) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.1284	7.683	.3006	16.87	20.87	11.39	8.041	4.620	.8565
Stddev	.0001	.047	.0008	.04	.09	.06	.020	.006	.0024
%RSD	.0762	.6112	.2637	.2086	.4164	.5297	.2505	.1406	.2777

#1	.1283	7.660	.3005	16.84	20.81	11.35	8.052	4.620	.8548
#2	.1284	7.737	.2999	16.90	20.97	11.46	8.018	4.613	.8554
#3	.1285	7.652	.3014	16.88	20.83	11.36	8.054	4.626	.8592

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.520	6.909	3.321	1.127	4.137	1.919	13.02	2.598	1.577
Stddev	.006	.036	.012	.007	.015	.002	.05	.006	.008
%RSD	.3778	.5158	.3585	.6603	.3565	.0779	.3605	.2495	.4925

#1	1.525	6.892	3.309	1.121	4.135	1.917	12.99	2.600	1.585
#2	1.523	6.950	3.333	1.135	4.123	1.919	13.08	2.591	1.569
#3	1.514	6.886	3.320	1.124	4.152	1.920	13.01	2.604	1.578

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.3972	.2233	.8113	.7382	28.38	3.039	.5377	1.191	4.192
Stddev	.0006	.0002	.0009	.0020	.08	.003	.0019	.002	.021
%RSD	.1432	.0801	.1066	.2697	.2966	.0927	.3484	.2041	.4995

#1	.3966	.2235	.8103	.7388	28.31	3.041	.5399	1.192	4.203
#2	.3977	.2231	.8120	.7359	28.48	3.041	.5366	1.189	4.168
#3	.3973	.2232	.8116	.7398	28.36	3.036	.5367	1.194	4.206

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2162.1	5205.7	45541.	4618.4
Stddev	1.4	14.1	18.	39.7
%RSD	.06582	.27119	.03943	.85942

#1	2160.7	5221.9	45524.	4641.0
#2	2162.0	5198.0	45560.	4572.5
#3	2163.6	5197.1	45540.	4641.6

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Sample Name: LowStd Acquired: 9/1/2016 8:36:36 Type: Cal
Method: 60102007_042011(v271) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0306	.2011	.0723	4.112	5.128	3.026	1.993	1.146	.2142
Stddev	.0003	.002	.0002	.009	.018	.010	.004	.001	.0006
%RSD	1.021	.1004	.3265	.2155	.3545	.3198	.2042	.1198	.2852

#1	.0303	.2010	.0724	4.122	5.110	3.027	1.992	1.146	.2140
#2	.0308	.2009	.0720	4.105	5.126	3.016	1.990	1.145	.2149
#3	.0308	.2013	.0724	4.108	5.146	3.035	1.998	1.148	.2137

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.3774	1.922	.8507	.2960	1.032	.4855	3.393	.6500	.3767
Stddev	.0013	.008	.0025	.0018	.004	.0006	.013	.0031	.0011
%RSD	.3334	.4224	.2916	.5941	.3443	.1252	.3788	.4837	.2878

#1	.3776	1.920	.8530	.2947	1.030	.4857	3.403	.6495	.3769
#2	.3761	1.915	.8481	.2953	1.036	.4848	3.398	.6471	.3755
#3	.3786	1.931	.8512	.2980	1.029	.4859	3.379	.6533	.3777

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0965	.0539	.2722	.1851	7.072	.7620	.1291	.2996	1.044
Stddev	.0008	.0004	.0008	.0004	.010	.0016	.0008	.0008	.001
%RSD	.8277	.8170	.3012	.2133	.1464	.2094	.5977	.2600	.1335

#1	.0970	.0538	.2728	.1846	7.083	.7637	.1299	.2998	1.042
#2	.0955	.0543	.2712	.1853	7.062	.7618	.1284	.3004	1.044
#3	.0968	.0534	.2724	.1852	7.071	.7605	.1291	.2988	1.045

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2332.7	5362.6	46825.	4686.7
Stddev	1.6	7.4	146.	7.3
%RSD	.06772	.13742	.31245	.15641

#1	2332.8	5364.9	46954.	4690.9
#2	2334.2	5368.5	46666.	4691.0
#3	2331.1	5354.4	46856.	4678.3

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Sample Name: HighStd Acquired: 9/1/2016 8:43:26 Type: Cal
Method: 60102007_042011(v271) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.2507	15.11	.5976	33.27	40.80	22.28	15.63	9.019	1.663
Stddev	.0005	.03	.0018	.12	.11	.10	.01	.008	.006
%RSD	.1922	.1685	.3012	.3599	.2653	.4541	.0421	.0885	.3342

#1	.2502	15.10	.5994	33.14	40.83	22.37	15.63	9.023	1.657
#2	.2511	15.09	.5977	33.29	40.68	22.29	15.63	9.025	1.664
#3	.2508	15.13	.5958	33.38	40.89	22.17	15.62	9.010	1.667

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2.986	13.84	6.561	2.228	7.893	3.781	25.74	5.052	3.175
Stddev	.016	.02	.007	.016	.026	.004	.05	.003	.004
%RSD	.5452	.1343	.1085	.7180	.3274	.1045	.2066	.0490	.1196

#1	2.970	13.86	6.553	2.241	7.865	3.785	25.74	5.055	3.171
#2	2.986	13.84	6.565	2.233	7.899	3.779	25.69	5.051	3.176
#3	3.003	13.82	6.566	2.210	7.916	3.778	25.80	5.050	3.179

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.7902	.4418	1.479	1.446	55.84	5.808	1.068	2.314	8.179
Stddev	.0025	.0012	.004	.003	.14	.021	.003	.012	.022
%RSD	.3178	.2806	.2542	.1963	.2548	.3657	.2825	.5253	.2637

#1	.7931	.4431	1.484	1.444	55.73	5.788	1.070	2.299	8.160
#2	.7892	.4415	1.477	1.449	55.79	5.805	1.065	2.321	8.203
#3	.7884	.4407	1.478	1.444	56.00	5.830	1.070	2.320	8.174

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
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Sample Name: HSTD		Acquired: 9/1/2016 8:47:47			Type: QC				
Method: 60102007_042011(v271)		Mode: CONC			Corr. Factor: 1.000000				
User: admin		SSTRACE01:							
Comment:									
Elem Units	Ag3280 ppm	Al3961 ppm	As1890 ppm	Ba4554 ppm	Be3130 ppm	Ca3179 ppm	Cd2265 ppm	Co2286 ppm	Cr2677 ppm
Avg	.5061	80.93	4.091	4.047	4.043	80.78	4.043	4.047	4.043
Stddev	.0020	.79	.006	.022	.028	.70	.002	.003	.022
%RSD	.3886	.9817	.1517	.5442	.6880	.8625	.0578	.0659	.5425
#1	.5074	81.51	4.088	4.063	4.064	81.10	4.041	4.046	4.046
#2	.5038	81.26	4.087	4.056	4.053	81.25	4.041	4.045	4.063
#3	.5069	80.03	4.098	4.022	4.011	79.98	4.045	4.050	4.020

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem Units	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Avg	4.050	81.31	81.12	81.35	4.008	4.053	81.12	4.038	4.109
Stddev	.016	.95	.59	.93	.001	.002	.39	.002	.014
%RSD	.3821	1.165	.7237	1.140	.0320	.0501	.4776	.0520	.3509
#1	4.040	82.00	81.59	81.81	4.008	4.051	81.48	4.037	4.122
#2	4.042	81.71	81.31	81.96	4.009	4.053	81.18	4.037	4.111
#3	4.067	80.23	80.46	80.28	4.006	4.055	80.71	4.040	4.094

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.069	4.067	3.800	4.048	4.044	3.992	4.073	4.035	4.051
Stddev	.008	.003	.005	.005	.030	.004	.010	.007	.005
%RSD	.1890	.0671	.1218	.1288	.7338	.0993	.2416	.1737	.1272
#1	4.077	4.070	3.799	4.049	4.068	3.988	4.081	4.039	4.048
#2	4.068	4.065	3.796	4.043	4.053	3.992	4.076	4.040	4.049
#3	4.061	4.068	3.805	4.053	4.011	3.996	4.062	4.027	4.057

[illegible]

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Sample Name: HSTD		Acquired: 9/1/2016 8:47:47		Type: QC	
Method: 60102007_042011(v271)		Mode: CONC		Corr. Factor: 1.000000	
User: admin		SSTRACE01:		:	:
Comment:					
Int. Std.	In2306	Y_2243	Y_3600	Y_3710	
Units	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	1996.7	5007.0	44180.	4490.4	
Stddev	8.7	5.8	17.	63.4	
%RSD	.43459	.11563	.03844	1.4112	
#1	1988.3	5001.3	44197.	4452.2	
#2	1996.1	5006.8	44181.	4455.5	
#3	2005.6	5012.9	44163.	4563.6	

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Sample Name: ICV		Acquired: 9/1/2016 8:54:21		Type: QC					
Method: 60102007_042011(v271)		Mode: CONC		Corr. Factor: 1.000000					
User: admin		SSTRACE01:							
Comment:									
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2502	40.31	2.054	2.057	2.070	40.71	2.077	2.065	2.081
Stddev	.0020	.19	.004	.003	.005	.32	.003	.002	.009
%RSD	.8082	.4624	.1970	.1527	.2470	.7850	.1306	.1029	.4115
#1	.2518	40.10	2.050	2.055	2.064	40.36	2.077	2.067	2.074
#2	.2480	40.38	2.058	2.056	2.073	40.97	2.074	2.063	2.077
#3	.2509	40.46	2.054	2.061	2.073	40.81	2.079	2.066	2.090

[illegible]

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.032	40.72	40.29	40.50	2.103	2.056	40.23	2.074	2.041
Stddev	.007	.27	.07	.44	.004	.002	.06	.002	.001
%RSD	.3446	.6586	.1847	1.091	.1692	.0994	.1383	.1096	.0421
#1	2.040	40.41	40.25	39.99	2.102	2.056	40.21	2.073	2.041
#2	2.027	40.85	40.25	40.71	2.100	2.054	40.19	2.072	2.040
#3	2.029	40.89	40.38	40.80	2.107	2.058	40.29	2.076	2.042

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.041	2.045	1.664	2.047	2.037	2.088	2.049	2.064	2.078
Stddev	.006	.005	.001	.002	.006	.003	.008	.004	.002
%RSD	.2956	.2550	.0796	.1053	.2832	.1242	.4081	.1873	.1076
#1	2.046	2.046	1.666	2.046	2.033	2.086	2.058	2.065	2.080
#2	2.035	2.039	1.663	2.045	2.033	2.086	2.048	2.060	2.076
#3	2.043	2.049	1.664	2.050	2.043	2.091	2.042	2.068	2.078

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Sample Name: ICV		Acquired: 9/1/2016 8:54:21		Type: QC
Method: 60102007_042011(v271)		Mode: CONC		Corr. Factor: 1.000000
User: admin		SSTRACE01:		:
Comment:				
Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2166.5	5229.0	4554.2	4573.9
Stddev	3.3	6.9	126.	31.8
%RSD	.15095	.13239	.27718	.69428
#1	2163.6	5221.3	45651.	4609.7
#2	2165.8	5234.7	45571.	4549.4
#3	2170.0	5231.0	45404.	4562.5

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Sample Name: ICB Acquired: 9/1/2016 9:00:39 Type: QC
Method: 60102007_042011(v271) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0068	.0000	.0000	.0000	.0012	.0001	.0000	.0002
Stddev	.000	.0045	.0008	.0003	.0001	.0019	.0001	.000	.0001
%RSD	726.6	65.55	10490.	111.2	334.4	164.3	102.5	168.6	61.31
#1	-.0001	.0120	-.0009	-.0005	.0000	-.0011	.0001	.0000	.0001
#2	.0003	.0039	.0002	-.0002	.0001	.0007	.0001	.0000	.0003
#3	-.0003	.0046	.0007	.0000	-.0001	-.0031	.0000	-.0001	.0004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0013	.0264	.0212	.0001	.0001	-.0037	.0000	-.0007
Stddev	.0001	.0045	.0330	.0061	.0001	.0002	.0012	.000	.0003
%RSD	53.92	348.4	124.7	28.85	89.95	172.2	32.48	541.5	49.05
#1	-.0001	.0036	.0260	.0191	.0000	.0003	-.0036	-.0001	-.0010
#2	-.0003	-.0039	.0596	.0163	.0001	.0002	-.0050	.0001	-.0004
#3	-.0001	.0042	-.0063	.0280	.0001	-.0001	-.0025	.0000	-.0006

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	.0010	-.0001	.0003	.0001	.0001	.0002	.0001	-.0002
Stddev	.0004	.0027	.0000	.0003	.0000	.0001	.0007	.0000	.0001
%RSD	42.83	267.2	45.73	104.7	18.83	46.25	274.6	33.58	36.24
#1	.0013	.0035	-.0001	-.0001	.0001	.0002	-.0003	.0000	-.0002
#2	.0005	-.0019	.0000	.0005	.0001	.0002	.0010	.0001	-.0001
#3	.0009	.0016	-.0001	.0004	.0001	.0001	.0000	.0000	-.0003

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: ICB Acquired: 9/1/2016 9:00:39 Type: QC
Method: 60102007_042011(v271) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2451.0	5482.6	47947.	4689.8
Stddev	10.2	19.7	176.	10.3
%RSD	.41527	.35989	.36694	.22042
#1	2450.9	5494.6	47813.	4679.9
#2	2440.8	5459.8	48146.	4688.9
#3	2461.2	5493.3	47881.	4700.5

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Sample Name: CRIA Acquired: 9/1/2016 9:05:01 Type: QC
Method: 60102007_042011(v271) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089	.2134	.0098	.2115	.0052	1.088	.0054	.0542	.0113
Stddev	.0003	.0149	.0008	.0012	.0002	.003	.0000	.0001	.0003
%RSD	3.543	6.988	7.945	.5552	3.322	.3022	.3812	.2206	2.310
#1	.0086	.2288	.0105	.2126	.0054	1.089	.0054	.0541	.0114
#2	.0089	.1991	.0090	.2116	.0052	1.084	.0054	.0542	.0110
#3	.0092	.2123	.0099	.2103	.0051	1.090	.0054	.0544	.0115

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0261	.3279	10.36	5.396	.0167	.0518	10.46	.0438	.0054
Stddev	.0002	.0069	.02	.006	.0000	.0001	.03	.0001	.0001
%RSD	.6604	2.102	.1969	.1051	.2674	.2791	.2744	.2359	2.772
#1	.0263	.3347	10.37	5.399	.0168	.0516	10.49	.0439	.0053
#2	.0262	.3281	10.36	5.389	.0167	.0517	10.44	.0439	.0056
#3	.0260	.3209	10.33	5.399	.0167	.0519	10.44	.0437	.0054

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0049	.0114	.0051	.0528	.0103	.0104	.0098	.0514	.0221
Stddev	.0007	.0010	.0004	.0004	.0001	.0001	.0005	.0005	.0001
%RSD	14.72	8.994	6.914	.7308	1.309	.7939	5.482	.9081	.6307
#1	.0056	.0125	.0051	.0529	.0104	.0105	.0101	.0518	.0220
#2	.0050	.0115	.0054	.0531	.0103	.0103	.0092	.0509	.0223
#3	.0041	.0104	.0047	.0523	.0101	.0105	.0101	.0515	.0222

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: CRIA Acquired: 9/1/2016 9:05:01 Type: QC
Method: 60102007_042011(v271) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2399.1	5441.4	46829.	4580.4
Stddev	1.6	11.0	10.	15.1
%RSD	.06681	.20178	.02197	.33012
#1	2397.2	5441.4	46823.	4563.3
#2	2399.9	5430.5	46841.	4591.9
#3	2400.0	5452.4	46823.	4585.9

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Sample Name: ICSA Acquired: 9/1/2016 9:13:19 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.003	501.5	.0001	.0001	-0.0001	483.4	-0.0006	.0006	-0.0001
Stddev	.0001	2.8	.0001	.0001	.0000	2.3	.0001	.0000	.0003
%RSD	41.28	.5524	116.8	171.9	17.61	.4815	10.41	7.376	237.1
#1	-0.002	499.8	.0001	.0002	-0.0001	484.4	-0.0006	.0005	-0.0002
#2	-0.004	500.0	.0000	-0.0001	-0.0001	480.8	-0.0007	.0006	-0.0003
#3	-0.003	504.7	.0002	.0001	-0.0001	485.1	-0.0006	.0006	.0002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	186.8	.0134	533.5	.0005	-0.0008	.1418	-0.0005	.0000
Stddev	.0002	.2	.0241	1.0	.0001	.0001	.0138	.0002	.0005
%RSD	14.62	.0838	180.1	.1806	16.37	18.32	9.709	34.09	6286.
#1	.0017	187.0	.0013	534.4	.0006	-0.0008	.1306	-0.0003	-0.0005
#2	.0015	186.7	.0412	532.5	.0005	-0.0010	.1378	-0.0006	.0001
#3	.0013	186.7	-0.0023	533.5	.0004	-0.0007	.1572	-0.0005	.0004

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0000	.0436	F.0033	-0.0003	-0.0007	.0000	.0001	-0.0010
Stddev	.002	.0024	.0013	.0003	.0003	.0001	.001	.0003	.0001
%RSD	5717.	7163.	2.958	9.801	83.86	15.11	2355.	559.6	8.730
#1	-0.0022	-0.0023	.0447	.0031	-0.0003	-0.0007	.0009	-0.0002	-0.0009
#2	.0015	.0000	.0422	.0030	-0.0001	-0.0006	-0.0004	.0004	-0.0011
#3	.0006	.0024	.0439	.0036	-0.0007	-0.0008	-0.0006	.0000	-0.0009

Check ? Chk Pass Chk Pass None Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit .0010
Low Limit -.0010

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Sample Name: ICSAB Acquired: 9/1/2016 9:19:53 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.013	505.2	1.131	.5179	.5062	497.6	.9796	.4873	.5273
Stddev	.003	2.2	.005	.0013	.0023	5.1	.0020	.0008	.0004
%RSD	.3265	.4444	.4301	.2474	.4496	1.034	2045	.1586	.0833
#1	1.012	506.5	1.137	.5192	.5079	496.0	.9807	.4878	.5271
#2	1.010	506.4	1.131	.5180	.5072	503.3	.9809	.4876	.5270
#3	1.017	502.6	1.127	.5166	.5036	493.4	.9773	.4864	.5278

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5288	185.9	-0.0307	532.4	.5240	1.002	.1337	.9743	1.040
Stddev	.0008	.7	.0344	.5	.0012	.003	.0115	.0017	.003
%RSD	.1566	.3501	111.9	.0861	.2226	.2693	8.567	.1726	.2633
#1	.5289	186.1	-0.0650	532.6	.5233	1.003	.1290	.9742	1.042
#2	.5296	186.3	-0.0310	532.7	.5235	1.005	.1468	.9760	1.037
#3	.5280	185.1	.0038	531.8	.5254	.9994	.1254	.9727	1.040

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass Chk Pass
Value Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.053	1.057	.0540	.9910	1.035	1.067	1.038	.4890	.9969
Stddev	.001	.002	.0001	.0049	.002	.005	.004	.0008	.0016
%RSD	.0878	.2155	.2276	.4927	.2188	.4451	.3438	.1621	.1626
#1	1.052	1.056	.0539	.9966	1.037	1.062	1.042	.4892	.9987
#2	1.054	1.059	.0541	.9889	1.035	1.070	1.036	.4896	.9956
#3	1.053	1.054	.0539	.9876	1.032	1.070	1.036	.4881	.9963

Check ? Chk Pass Chk Pass None Chk Pass None None Chk Pass Chk Pass Chk Pass
Value Range

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Sample Name: ICSA Acquired: 9/1/2016 9:13:19 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1871.3	4907.2	41097.	4277.8
Stddev	2.7	6.4	119.	6.5
%RSD	.14517	.13046	.28958	.15107
#1	1869.4	4911.8	41038.	4274.0
#2	1874.4	4899.9	41020.	4285.2
#3	1870.0	4910.0	41234.	4274.1

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Sample Name: ICSAB Acquired: 9/1/2016 9:19:53 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1848.5	4902.0	40909.	4292.5
Stddev	1.4	5.5	177.	23.5
%RSD	.07653	.11127	.43254	.54711
#1	1847.1	4902.6	41105.	4270.5
#2	1849.9	4896.3	40760.	4289.8
#3	1848.4	4907.1	40863.	4317.3

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Sample Name: CCV		Acquired: 9/1/2016 9:28:49		Type: QC					
Method: 60102007_042011(v272)		Mode: CONC		Corr. Factor: 1.000000					
User: admin		SSTRACE01: :							
Comment:									
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2557	39.64	1.989	1.998	2.000	40.47	2.028	2.024	2.045
Stddev	.0007	.13	.005	.004	.005	.12	.001	.001	.012
%RSD	.2783	.3166	.2318	.2037	.2458	.2930	.0511	.0527	.5728
#1	2549	39.68	1.994	1.993	2.002	40.49	2.029	2.025	2.053
#2	2562	39.74	1.987	2.001	2.004	40.58	2.027	2.024	2.032
#3	2560	39.50	1.985	1.999	1.994	40.34	2.029	2.023	2.050

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.006	39.13	39.93	40.22	2.082	2.001	39.81	2.021	2.010
Stddev	.009	.11	.08	.18	.009	.002	.02	.002	.002
%RSD	.4743	.2694	.1922	.4401	.4084	.0744	.0624	.1044	.1025
#1	1.996	39.18	39.94	40.28	2.089	2.000	39.78	2.023	2.010
#2	2.015	39.20	40.00	40.36	2.073	2.003	39.82	2.019	2.012
#3	2.007	39.01	39.84	40.02	2.085	2.001	39.82	2.020	2.008

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.986	1.990	2.033	2.031	1.989	2.031	2.014	2.046	2.046
Stddev	.006	.002	.002	.004	.004	.003	.005	.006	.001
%RSD	.2884	.1034	.1194	.1777	.1785	.1237	.2491	.3109	.0342
#1	1.991	1.988	2.031	2.035	1.986	2.030	2.019	2.050	2.046
#2	1.987	1.992	2.034	2.030	1.993	2.029	2.014	2.039	2.045
#3	1.979	1.991	2.035	2.028	1.987	2.034	2.009	2.049	2.045

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: CCV		Acquired: 9/1/2016 9:28:49		Type: QC	
Method: 60102007_042011(v272)		Mode: CONC		Corr. Factor: 1.000000	
User: admin		SSTRACE01:		:	:
Comment:					
Int. Std.	In2306	Y_2243	Y_3600	Y_3710	
Units	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2182.1	5286.8	45874.	4582.7	
Stddev	3.4	5.7	207.	25.9	
%RSD	.15727	.10812	.45129	.56573	
#1	2186.0	5293.0	45678.	4579.4	
#2	2180.9	5285.6	46091.	4558.5	
#3	2179.4	5281.7	45854.	4610.1	

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Sample Name: CCB		Acquired: 9/1/2016 9:36:22		Type: QC					
Method: 60102007_042011(v272)		Mode: CONC		Corr. Factor: 1.000000					
User: admin		SSTRACE01:		:	:				
Comment:									
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.0005	.0086	-0.007	.0001	.0003	.0074	.0001	.0000	.0003
Stddev	.0000	.0033	.0005	.0002	.0000	.0014	.0000	.0001	.0000
%RSD	3.730	38.27	70.12	194.7	14.30	18.45	39.00	175.4	14.57
#1	-0.0006	.0099	-0.0006	.0000	.0003	.0075	.0002	.0001	.0004
#2	-0.0005	.0111	-0.0002	.0003	.0003	.0088	.0001	.0000	.0003
#3	-0.0006	.0049	-0.0012	.0000	.0002	.0060	.0001	.0001	.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0052	-0.0171	-0.0281	.0002	-0.0007	.0018	.0000	.0007
Stddev	.0001	.0046	.0347	.0276	.0000	.0001	.0067	.000	.0006
%RSD	52.40	88.00	203.2	94.97	29.03	14.84	375.2	317.7	81.48
#1	.0001	.0062	-0.0499	-0.0610	.0002	-0.0006	.0095	-0.0002	.0005
#2	.0002	.0091	.0191	-0.136	.0001	-0.0007	-0.017	.0000	.0002
#3	.0001	.0002	-0.203	-0.126	.0002	-0.0007	-0.025	.0000	.0013

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.003	.0011	.0002	-0.0003	.0003	-0.0003	.0020	.0003	-0.002
Stddev	.0004	.0015	.0003	.0003	.0000	.0001	.0016	.0001	.0000
%RSD	145.9	131.0	179.8	100.7	3.142	20.96	81.08	36.89	8.437
#1	-0.003	-0.002	-0.002	-0.0006	.0003	-0.0003	.0001	.0005	-0.002
#2	-0.007	.0027	.0002	-0.0001	.0003	-0.0004	.0029	.0003	-0.003
#3	.0001	.0008	.0005	-0.0001	.0003	-0.0004	.0029	.0003	-0.003

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCB		Acquired: 9/1/2016 9:36:22		Type: QC	
Method: 60102007_042011(v272)		Mode: CONC		Corr. Factor: 1.000000	
User: admin		SSTRACE01: :		:	
Comment:					
Int. Std.	In2306	Y_2243	Y_3600	Y_3710	
Units	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2487.6	5587.8	48333.	4753.0	
Stddev	1.3	5.3	74.	16.8	
%RSD	.05320	.09521	.15247	.35337	
#1	2488.4	5591.2	48411.	4736.5	
#2	2488.4	5590.4	48324.	4770.0	
#3	2486.1	5581.6	48265.	4752.6	

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Sample Name: MP30786-MB1 Acquired: 9/1/2016 9:40:49 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.002	-0.013	-0.019	-0.003	.0000	.0126	-0.001	-0.001	.0007
Stddev	.0002	.0056	.0007	.0003	.000	.0010	.0001	.0000	.0003
%RSD	112.3	429.7	36.09	95.46	102.0	8.070	54.46	24.37	46.02
#1	.0000	-0.013	-0.020	-0.005	.0000	.0124	.0000	-0.002	.0007
#2	-0.004	-0.069	-0.026	-0.005	.0000	.0117	-0.002	-0.002	.0004
#3	-0.001	.0043	-0.012	.0000	-0.001	.0137	-0.001	-0.001	.0010

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.004	-0.046	.0059	-0.176	.0000	-0.0009	-0.049	-0.003	.0003
Stddev	.0002	.0037	.0044	.0170	.0000	.0002	.0064	.0001	.0003
%RSD	65.29	79.73	75.24	96.72	6248.	21.15	131.1	27.69	115.5
#1	-0.001	-0.072	.0108	-0.021	.0000	-0.007	-0.004	-0.003	.0006
#2	-0.006	-0.063	.0046	-0.149	.0000	-0.011	-0.020	-0.002	-0.001
#3	-0.005	-0.004	.0022	-0.0358	.0000	-0.009	-0.0122	-0.004	.0004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0015	.0028	-0.001	.0000	-0.0005	-0.008	.0000	.0006
Stddev	.0015	.0006	.0004	.0004	.000	.0001	.0007	.000	.0000
%RSD	595.1	41.69	14.61	346.4	608.7	11.69	86.70	47.37	7.202
#1	.0008	.0017	.0031	-0.002	-0.001	-0.005	-0.014	-0.001	.0005
#2	-0.015	.0021	.0030	.0003	.0000	-0.006	-0.001	.0000	.0005
#3	.0014	.0008	.0023	-0.004	.0000	-0.005	-0.009	-0.001	.0006

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: MP30786-MB1 Acquired: 9/1/2016 9:40:49 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2444.6	5520.3	48095.	4769.7
Stddev	3.2	8.1	76.	38.2
%RSD	.13094	.14729	.15724	.80040
#1	2447.6	5527.3	48155.	4742.9
#2	2441.3	5511.4	48010.	4813.4
#3	2444.9	5522.1	48120.	4752.7

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Sample Name: MP30786-B1 Acquired: 9/1/2016 9:45:20 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0444	25.91	1.784	1.879	.0477	25.55	.0463	.4701	.1940
Stddev	.0005	.03	.004	.002	.0000	.05	.0000	.0008	.0008
%RSD	1.015	.1128	.2386	.0891	.0803	.1785	.0984	.1755	.4272
#1	.0442	25.94	1.781	1.879	.0477	25.56	.0463	.4693	.1936
#2	.0449	25.91	1.784	1.880	.0478	25.59	.0463	.4709	.1935
#3	.0441	25.88	1.789	1.877	.0477	25.50	.0462	.4700	.1950

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2444	25.50	24.76	24.59	.5068	.5076	24.89	.4661	.4514
Stddev	.0013	.07	.07	.09	.0014	.0012	.00	.0010	.0003
%RSD	.5214	.2552	.2716	.3576	.2846	.2441	.0167	.2212	.0734
#1	.2456	25.56	24.78	24.70	.5053	.5062	24.89	.4656	.4513
#2	.2446	25.50	24.69	24.53	.5070	.5086	24.89	.4673	.4512
#3	.2431	25.43	24.82	24.56	.5082	.5079	24.89	.4654	.4518

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4546	1.808	.0159	.5144	.4909	.5062	1.811	.4700	.4790
Stddev	.0006	.004	.0002	.0009	.0011	.0020	.001	.0004	.0006
%RSD	.1289	.2279	1.059	.1794	.2306	.3911	.0322	.0894	.1320
#1	.4544	1.809	.0158	.5135	.4922	.5041	1.811	.4697	.4786
#2	.4553	1.803	.0161	.5153	.4902	.5079	1.811	.4698	.4787
#3	.4542	1.811	.0159	.5142	.4904	.5067	1.812	.4705	.4797

Check ? Chk Pass Chk Pass None Chk Pass None None Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: MP30786-B1 Acquired: 9/1/2016 9:45:20 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2265.2	5391.2	46394.	4724.7
Stddev	2.9	5.9	195.	18.7
%RSD	.12964	.10893	.42120	.39548
#1	2262.8	5386.9	46376.	4703.6
#2	2268.5	5388.7	46209.	4731.4
#3	2264.4	5397.9	46598.	4739.1

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Sample Name: FA36481-6 Acquired: 9/1/2016 9:49:33 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0005	6676	-0012	9412	-0002	F 634.0	-0002	0001	0032
Stddev	.0002	.0121	.0011	.0038	.0001	.9	.0000	.0000	.0002
%RSD	52.20	1.816	86.34	.4049	40.15	.1372	16.77	12.13	7.039

#1	-0007	6660	-0004	9381	-0002	634.9	-0003	0002	0032
#2	-0002	6564	-0024	9401	-0003	633.2	-0002	0001	0033
#3	-0006	6805	-0009	9455	-0002	633.9	-0002	0001	0029

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	0017	0282	F 106.2	0374	0013	0018	69.15	0004	0000
Stddev	.0001	.0045	.3	.0454	.0001	.0000	.26	.0001	.0003
%RSD	6.233	15.82	.3259	121.3	7.387	.5441	.3687	29.55	1262.

#1	.0017	.0329	105.8	.0010	.0012	.0018	68.87	.0005	-0003
#2	.0018	.0275	106.4	.0229	.0014	.0018	69.21	.0003	.0000
#3	.0016	.0241	106.4	.0882	.0012	.0018	69.37	.0004	.0004

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0010	0095	2250	0008	F 14.49	-0016	0010	0004	0562
Stddev	.0005	.0015	.0004	.0003	.10	.0002	.0003	.0004	.0002
%RSD	48.73	15.42	.1993	45.42	.7131	11.58	26.07	89.60	.3744

#1	.0005	.0078	2247	.0005	14.39	-0014	.0013	.0000	.0560
#2	.0015	.0105	2249	.0012	14.60	-0017	.0008	.0007	.0561
#3	.0010	.0101	2255	.0006	14.49	-0017	.0008	.0005	.0564

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2005.0	4896.1	41559.	4567.0
Stddev	3.9	4.4	89.	14.8
%RSD	.19688	.08996	.21309	.32306

#1	2009.5	4899.2	41465.	4556.3
#2	2003.5	4891.1	41640.	4583.8
#3	2002.0	4898.1	41572.	4560.7

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Sample Name: MP30786-SD1 Acquired: 9/1/2016 9:59:02 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	Be3130	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0020	6915	.0000	9421	-0013	672.5	-0006	-0005	0037
Stddev	.0004	.0406	.0025	.0031	.0005	3.4	.0002	.0003	.0013
%RSD	18.11	5.868	45250.	.3335	42.54	.4985	35.85	55.08	34.05

#1	-0024	.6513	-0013	.9399	-0016	676.1	-0006	-0004	.0049
#2	-0018	.7325	-0016	.9457	-0006	672.1	-0004	-0003	.0038
#3	-0017	.6908	.0029	.9407	-0015	669.4	-0008	-0008	.0024

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	0006	-0186	104.9	-0301	0006	-0029	68.71	-0008	-0032
Stddev	.0001	.0150	.3	.1159	.0004	.0004	.25	.0010	.0034
%RSD	15.35	80.64	.2835	384.4	58.51	13.39	.3597	135.4	106.3

#1	0006	-0325	105.3	-1613	.0005	-0030	69.00	-0015	.0002
#2	.0005	-0028	104.7	.0123	.0011	-0032	68.59	.0004	-0033
#3	.0007	-0204	104.8	.0585	.0044	-0024	68.55	-0013	-0066

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0021	0072	2287	-0016	15.04	-0010	0003	-0006	0727
Stddev	.0077	.0054	.0009	.0010	.01	.0001	.0032	.0002	.0004
%RSD	366.9	74.57	.3983	62.79	.0888	14.08	987.2	32.39	.6133

#1	-0030	.0079	2277	-0027	15.05	-0009	.0039	-0006	.0730
#2	-0016	.0123	2295	-0015	15.03	-0009	-0023	-0008	.0729
#3	.0110	.0015	2289	-0007	15.03	-0011	-0006	-0004	.0722

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2274.6	5340.5	45422.	4792.6
Stddev	3.8	10.8	282.	52.5
%RSD	.16697	.20207	.62033	1.0945

#1	2270.7	5347.7	45718.	4732.5
#2	2278.3	5345.7	45390.	4816.2
#3	2274.8	5328.1	45157.	4829.2

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Sample Name: MP30786-D1 Acquired: 9/1/2016 9:54:16 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0003	6777	-0025	9579	-0002	F 643.4	-0003	-0001	0031
Stddev	.0003	.0091	.0010	.0003	.0001	3.5	.0000	.0000	.0001
%RSD	93.59	1.349	41.07	.0363	38.28	.5388	18.09	87.42	4.482

#1	-0002	6849	-0013	9579	-0002	645.9	-0002	-0001	0032
#2	-0007	6809	-0033	9576	-0002	644.9	-0003	.0000	.0030
#3	-0001	6674	-0027	9583	-0001	639.5	-0003	.0000	.0030

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	0020	0186	F 108.1	0163	0012	0018	70.42	0003	0001
Stddev	.0002	.0021	.1	.0231	.0000	.0001	.05	.0001	.0007
%RSD	9.617	11.52	.1139	141.1	3.013	3.777	.0779	45.60	581.8

#1	.0018	.0210	108.2	-.0095	.0011	.0017	70.37	.0003	-0007
#2	.0022	.0179	108.0	.0235	.0012	.0018	70.42	.0004	.0005
#3	.0019	.0169	108.0	.0350	.0012	.0018	70.48	.0001	.0006

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0013	0070	2301	0008	F 14.79	-0018	-0005	0004	0033
Stddev	.0014	.0010	.0009	.0004	.10	.0001	.0016	.0002	.0000
%RSD	101.5	14.86	.3801	46.71	.6701	7.092	336.9	55.05	1.424

#1	.0029	.0063	2301	.0004	14.84	-0018	.0004	.0006	.0033
#2	.0003	.0065	2310	.0009	14.85	-0016	-.0024	.0002	.0033
#3	.0009	.0082	2292	.0011	14.67	-0018	.0005	.0005	.0034

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2000.4	4886.7	41520.	4572.5
Stddev	4.0	3.5	95.	10.8
%RSD	.19994	.07090	.22763	.23568

#1	1996.8	4888.5	41416.	4577.0
#2	1999.9	4882.8	41600.	4560.2
#3	2004.7	4889.0	41543.	4580.3

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Sample Name: MP30786-PS1 Acquired: 9/1/2016 10:03:33 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	Be3130	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	0028	3226	.1071	1191	.0520	F 628.3	.0514	.0525	.0567
Stddev	.0008	.022	.0015	.002	.0002	4.3	.0001	.0001	.0002
%RSD	1.430	.6693	1.409	.1919	.4451	.6858	.1500	.2363	.2889

#1	.0524	3.216	.1054	1.192	.0518	632.4	.0515	.0523	.0569
#2	.0524	3.211	.1084	1.193	.0520	628.6	.0514	.0525	.0567
#3	.0537	3.251	.1076	1.189	.0523	623.8	.0514	.0525	.0566

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	0167	3015	F 114.3	4841	0059	1084	78.25	1005	0507
Stddev	.0004	.009	.1	.051	.0004	.0002	.08	.0003	.0009
%RSD	.3642	.3157	.0948	1.032	.6811	.1974	.0964	.2758	1.770

#1	.1167	3.015	114.2	4.958	.0589	.1092	78.21	.1002	.0516
#2	.1171	3.006	114.3	4.884	.0593	.1093	78.34	.1006	.0506
#3	.1163	3.025	114.5	4.982	.0585	.1096	78.22	.1006	.0498

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0141	0136	2377	0505	F 14.18	1052	0080	0554	0301
Stddev	.0007	.0015	.0020	.0004	.30	.0002	.0009	.0005	.0005
%RSD	.5871	1.337	.8384	.7607	2.115	.2333	.8815	.9624	.1561

#1	.1133	.1120	2365	.0507	14.06	.1050	.0970	.0553	.2996
#2	.1145	.1150	2366	.0500	13.95	.1054	.0985	.0560	.3002
#3	.1145	.1137	2400	.0507	14.52	.1051	.0985	.0550	.3006

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	1992.0	4889.5	41678.	4598.1
Stddev	5.9	18.4	35.	15.5
%RSD	.29690	.37616	.08316	.33664

#1	1997.5	4902.8	41646.	45
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Sample Name: MP30786-S1 Acquired: 9/1/2016 10:08:08 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0496	26.97	1.932	2.891	.0499	F 640.6	.0463	.4723	.1969
Stddev	.0005	.05	.006	.007	.0001	8.7	.0000	.0005	.0006
%RSD	.9715	.1938	.3231	.2303	.2771	1.359	.1057	.0998	.3264
#1	.0500	27.02	1.930	2.893	.0500	630.6	.0463	.4718	.1964
#2	.0491	26.91	1.939	2.883	.0497	646.5	.0464	.4727	.1976
#3	.0497	26.97	1.927	2.896	.0499	644.8	.0463	.4724	.1966

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.2624	24.69	F 129.1	23.61	.5180	.5020	F 92.85	.4614	.4744
Stddev	.0013	.03	.2	.17	.0005	.0012	.09	.0009	.0013
%RSD	.4942	.1053	.1362	.7345	.0972	.2316	.1003	.1892	.2765

#1	.2610	24.67	128.9	23.42	.5185	.5008	92.80	.4607	.4753
#2	.2627	24.70	129.0	23.77	.5179	.5032	92.80	.4623	.4729
#3	.2635	24.72	129.3	23.64	.5175	.5019	92.96	.4611	.4749

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_2243)	(Y_2243)
Avg	.4880	1.965	.2333	.4923	F 14.56	.4983	1.836	.4938	.4855
Stddev	.0017	.004	.0009	.0011	.32	.0004	.002	.0013	.0018
%RSD	.3392	.1795	.3862	.2256	2.215	.0883	.1207	.2607	.3662

#1	.4861	1.961	.2325	.4922	14.55	.4979	1.834	.4933	.4854
#2	.4888	1.966	.2343	.4913	14.89	.4984	1.837	.4928	.4839
#3	.4891	1.968	.2331	.4935	14.25	.4988	1.838	.4952	.4874

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	1949.6	4955.4	42503.	4602.6
Stddev	3.8	9.5	11.	30.8
%RSD	.19252	.19075	.02694	.66871

#1	1945.9	4958.4	42489.	4636.9
#2	1953.4	4944.9	42508.	4577.3
#3	1949.6	4963.0	42511.	4593.5

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Sample Name: FA36481-14 Acquired: 9/1/2016 10:17:06 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)
Avg	-.0070	.1083	-.0047	.0655	-.0010	329.4	-.0055	.1179
Stddev	.0013	.0505	.0045	.0018	.0002	1.6	.0009	.0009
%RSD	19.36	46.64	96.20	2.713	16.18	.4953	16.53	.7373

#1	-.0074	.1597	-.0070	.0640	-.0008	328.1	-.0050	.1171
#2	-.0080	.1063	-.0076	.0675	-.0010	331.2	-.0066	.1177
#3	-.0054	.0588	.0005	.0651	-.0011	328.8	-.0050	.1188

Elem	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895
IS Ref	(Y_3600)	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Avg	.0083	.0145	927.2	5.623	63.30	F 21.74	.0112	391.6
Stddev	.0013	.0007	4.4	.111	.38	.10	.0008	1.1
%RSD	16.13	5.082	.4784	1.979	.6038	.4800	7.110	.2923

#1	.0087	.0141	924.1	5.553	62.89	21.73	.0119	390.6
#2	.0094	.0141	932.3	5.751	63.64	21.63	.0114	392.9
#3	.0068	.0154	925.2	5.564	63.38	21.84	.0103	391.3

Elem	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349
IS Ref	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)
Avg	.2316	F -.0730	.0117	-.0129	3.222	.0060	3.370	.0015
Stddev	.0020	.0032	.0081	.0103	.018	.0004	.006	.0005
%RSD	.8844	4.407	69.52	79.38	.5682	7.004	.1906	31.53

#1	.2322	-.0760	.0204	-.0023	3.214	.0060	3.367	.0011
#2	.2294	-.0696	.0103	-.0138	3.208	.0055	3.378	.0020
#3	.2334	-.0733	.0043	-.0227	3.242	.0064	3.366	.0014

Elem	Ti1908	V_2924	Zn2062
IS Ref	(In2306)	(Y_3600)	(Y_2243)
Avg	-.0053	.0072	1.140
Stddev	.0067	.0000	.002
%RSD	125.7	.4109	.1529

#1	-.0077	.0073	1.139
#2	-.0106	.0072	1.140
#3	.0022	.0072	1.142

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Sample Name: MP30786-S2 Acquired: 9/1/2016 10:12:36 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0514	27.51	2.019	2.990	.0522	F 634.1	.0487	.4951	.2050
Stddev	.0003	.09	.002	.002	.0002	2.9	.0000	.0010	.0011
%RSD	.6256	.3345	.0818	.0560	.3002	.4582	.0572	.2053	.5467
#1	.0516	27.54	2.018	2.991	.0522	632.0	.0487	.4940	.2037
#2	.0510	27.58	2.019	2.988	.0524	637.4	.0487	.4955	.2057
#3	.0515	27.41	2.021	2.991	.0521	632.9	.0487	.4959	.2056

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.2746	25.09	F 129.6	23.84	.5432	.5164	F 93.37	.4829	.4963
Stddev	.0003	.13	.5	.30	.0009	.0013	.31	.0009	.0019
%RSD	.1068	.5178	.3597	1.264	.1707	.2527	.3298	.1816	.3751

#1	.2748	25.05	129.8	23.72	.5425	.5151	93.47	.4821	.4975
#2	.2748	25.24	129.9	24.19	.5443	.5165	93.62	.4828	.4972
#3	.2743	24.98	129.1	23.63	.5429	.5177	93.03	.4839	.4941

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.5166	2.057	.2340	.5082	F 14.57	.5111	1.925	.5148	.5092
Stddev	.0015	.010	.0011	.0009	.16	.0013	.003	.0021	.0011
%RSD	.2817	.4818	.4589	.1707	1.084	.2615	.1571	.4006	.2118

#1	.5174	2.048	.2333	.5075	14.66	.5095	1.927	.5138	.5091
#2	.5176	2.058	.2352	.5079	14.66	.5118	1.926	.5172	.5082
#3	.5150	2.067	.2335	.5091	14.39	.5119	1.921	.5135	.5104

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	1946.2	4959.1	42564.	4623.1
Stddev	4.5	9.8	127.	40.6
%RSD	.23260	.19739	.29948	.87734

#1	1942.0	4969.1	42679.	4621.4
#2	1945.6	4949.5	42427.	4583.5
#3	1951.0	4958.7	42586.	4664.5

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Sample Name: FA36481-14 Acquired: 9/1/2016 10:17:06 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2190.9	5292.6	45124.	4790.6
Stddev	4.9	20.5	154.	49.2
%RSD	.22209	.38812	.34203	1.0265

#1	2196.0	5298.9	45271.	4829.9
#2	2190.5	5309.2	45138.	4735.5
#3	2186.3	5269.6	44963.	4806.5

Sample Name: FA36513-1 Acquired: 9/1/2016 10:21:38 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	
Avg	-0004	0230	1269	0303	-0002	165.9	-0002	-0003	0025
Stddev	.0005	.0013	.0001	.0003	.0001	.5	.0000	.0001	.0004
%RSD	128.7	5.860	.1025	.8756	65.34	.3169	12.15	36.28	15.36

#1	.0002	.0243	.1268	.0306	-0002	165.7	-0002	-0002	.0025
#2	-0008	.0231	.1268	.0301	-0003	165.6	-0002	-0004	.0021
#3	-0006	.0216	.1270	.0302	-0001	166.5	-0002	-0003	.0028

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)	(In2306)
Avg	0006	13.13	2.729	5.872	.0935	54.07	-0001	-0002	
Stddev	.0002	.02	.033	.022	.0004	.0001	.13	.0002	.0004
%RSD	28.08	.1813	1.195	.3749	.3929	138.1	.2409	187.2	16.54

#1	.0008	13.11	2.694	5.889	.0937	.0001	53.96	.0001	-.0022
#2	.0004	13.12	2.758	5.847	.0937	.0002	54.04	-0003	-.0026
#3	.0006	13.15	2.736	5.879	.0931	.0000	54.22	-0001	-.0018

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_2243)	(Y_2243)
Avg	0010	0026	3.416	0003	1.622	0032	-0016	0237	0039
Stddev	.0003	.0014	.006	.0003	.005	.0000	.0022	.0004	.0000
%RSD	28.28	53.85	.1646	96.63	.3152	.7526	140.3	1.586	.7625

#1	.0008	.0024	3.418	.0001	1.617	.0033	-.0040	.0238	.0039
#2	.0010	.0013	3.420	.0001	1.623	.0032	.0001	.0233	.0039
#3	.0013	.0041	3.410	.0006	1.627	.0033	-.0008	.0240	.0040

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2202.0	5181.8	44927.	4780.0
Stddev	4.1	6.7	71.	23.7
%RSD	.18724	.12944	.15871	.49572

#1	2197.5	5179.6	44946.	4796.7
#2	2205.7	5189.3	44848.	4790.3
#3	2202.6	5176.4	44986.	4752.8

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Sample Name: CCV Acquired: 9/1/2016 10:26:04 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2169.4	5324.3	45656.	4727.1
Stddev	3.9	15.3	379.	13.7
%RSD	.18191	.28812	.82981	.28877

#1	2173.0	5341.2	45898.	4731.7
#2	2165.2	5320.4	45850.	4711.8
#3	2170.0	5311.3	45219.	4737.9

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Sample Name: CCV Acquired: 9/1/2016 10:26:04 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2610	38.39	1.933	1.971	1.997	40.15	1.983	2.018	2.039
Stddev	.0002	.01	.004	.006	.001	.13	.001	.003	.015
%RSD	.0840	.0321	.1787	.3057	.0646	.3359	.0580	.1255	.7146

#1	2609	38.39	1.931	1.967	1.995	40.13	1.982	2.015	2.032
#2	2609	38.40	1.932	1.968	1.998	40.30	1.984	2.020	2.029
#3	2613	38.38	1.937	1.978	1.997	40.03	1.983	2.020	2.056

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.043	37.18	39.77	39.56	2.165	1.984	39.93	1.960	1.979
Stddev	.009	.02	.06	.12	.014	.002	.08	.003	.007
%RSD	.4433	.0445	.1390	.3042	.6452	.1214	.2113	.1369	.3394

#1	2.052	37.17	39.74	39.59	2.155	1.981	39.84	1.958	1.986
#2	2.034	37.20	39.73	39.66	2.159	1.984	39.93	1.960	1.975
#3	2.043	37.18	39.83	39.42	2.181	1.986	40.01	1.963	1.974

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.947	1.966	1.992	2.051	1.967	1.974	1.976	2.114	2.069
Stddev	.005	.007	.004	.001	.002	.010	.006	.013	.002
%RSD	.2677	.3835	.1835	.0437	.0879	.5004	.3117	.6041	.0883

#1	1.945	1.969	1.988	2.051	1.967	1.979	1.983	2.106	2.070
#2	1.944	1.958	1.992	2.051	1.966	1.963	1.975	2.108	2.071
#3	1.953	1.972	1.995	2.050	1.969	1.981	1.971	2.129	2.067

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Sample Name: CCB Acquired: 9/1/2016 10:30:16 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0003	0035	0003	0000	0003	0090	0001	0001	0002
Stddev	.0001	.0071	.0010	.0001	.0001	.0020	.0001	.0000	.0003
%RSD	24.07	203.6	332.9	332.9	34.89	21.92	51.08	15.30	145.3

#1	-0004	.0117	.0015	.0000	.0004	.0113	.0001	.0001	.0005
#2	-0003	-.0011	-.0005	.0002	.0002	.0085	.0002	.0001	.0001
#3	-0002	-.0001	.0000	-.0001	.0002	.0074	.0000	.0001	.0000

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0002	0133	0249	0037	0002	0001	0255	0001	0002
Stddev	.0001	.0048	.0112	.0236	.0001	.0001	.0153	.0003	.0001
%RSD	52.88	36.30	45.03	644.0	51.67	240.3	60.06	327.8	70.38

#1	-0004	0148	0184	-.0224	.0004	.0002	0431	.0002	-.0001
#2	-0001	0171	0185	.0235	.0002	-.0001	0186	.0004	-.0001
#3	-0002	.0079	.0379	.0099	.0001	.0001	.0149	-.0003	-.0003

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0006	0010	.0011	.0003	.0005	.0002	-.0010	.0002	-.0001
Stddev	.0004	.0020	.0005	.0003	.0001	.0001	.0006	.0002	.0000
%RSD	77.57	213.9	48.92	92.18	28.48	90.20	58.64	70.70	29.21

#1	.0010	-.0001	.0005	.0002	.0006	.0003	-.0003	.0001	-.0001
#2	.0002	-.0003	.0013	.0001	.0005	.0002	-.0015	.0004	-.0001
#3	.0005	.0033	.0015	.0006	.0003	.0000	-.0012	.0002	-.0001

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Sample Name: CCB Acquired: 9/1/2016 10:30:16 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2457.4	5605.9	47908.	4834.3
Stddev	9.6	11.8	93.	7.4
%RSD	.39108	.21031	.19399	.15401

#1	2462.3	5605.1	47892.	4825.7
#2	2463.6	5618.0	47825.	4837.7
#3	2446.4	5594.5	48009.	4839.4

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Sample Name: FA36513-2 Acquired: 9/1/2016 10:34:47 Type:UNK
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0.006	.0107	-0.006	.0174	-0.001	82.94	-0.001	-0.002	.0009
Stddev	.0003	.0043	.0013	.0002	.0000	.35	.0000	.0000	.0003
%RSD	50.22	39.70	232.2	1.116	59.75	.4176	25.52	18.77	31.42

#1	-0.0010	.0154	-0.0002	.0172	.0000	82.55	-0.0001	-0.0002	.0008
#2	-0.0004	.0096	-0.0020	.0174	-0.0001	83.19	-0.0001	-0.0002	.0013
#3	-0.0005	.0071	.0005	.0176	-0.0001	83.09	-0.0001	-0.0002	.0007

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	-0.003	.0099	4.408	4.907	.0018	.0066	35.97	-0.0003	-0.0002
Stddev	.0001	.0032	.034	.034	.0000	.0001	.08	.0001	.0004
%RSD	41.09	31.99	.7620	.6959	2.169	1.399	.2119	38.28	179.5

#1	-0.0002	.0086	4.445	4.868	.0017	.0066	35.88	-0.0005	-0.0002
#2	-0.0002	.0134	4.380	4.926	.0017	.0067	36.03	-0.0003	-0.0006
#3	-0.0004	.0075	4.398	4.928	.0018	.0066	35.98	-0.0003	.0001

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0013	.0023	1.911	.0002	.8208	.0003	-0.010	.0006	.0003
Stddev	.0011	.0016	.005	.0002	.0010	.0001	.0012	.0003	.0001
%RSD	87.25	70.15	.2419	86.79	.1225	26.41	117.4	51.78	20.70

#1	.0003	.0013	1.910	.0000	.8200	.0003	-0.0009	.0008	.0003
#2	.0025	.0041	1.907	.0004	.8204	.0003	-0.0022	.0006	.0002
#3	.0010	.0014	1.916	.0003	.8219	.0002	.0001	.0002	.0002

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2276.5	5285.7	45227.	4742.0
Stddev	8.4	16.0	85.	16.7
%RSD	.37084	.30315	.18809	.35280

#1	2286.0	5301.2	45132.	4760.9
#2	2273.8	5286.6	45253.	4736.2
#3	2269.8	5269.2	45296.	4728.9

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Sample Name: FA36513-3 Acquired: 9/1/2016 10:39:17 Type:UNK
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0.0003	.0186	-0.0025	.0086	-0.0002	77.05	-0.0002	-0.0003	.0008
Stddev	.0003	.0029	.0001	.0001	.0001	.56	.0000	.0001	.0002
%RSD	75.99	15.79	5.295	1.410	26.74	.7218	23.05	39.33	24.79

#1	-0.0002	.0161	-0.0025	.0085	-0.0003	77.46	-0.0001	-0.0002	.0007
#2	-0.0001	.0219	-0.0026	.0086	-0.0002	76.42	-0.0002	-0.0003	.0010
#3	-0.0006	.0179	-0.0023	.0087	-0.0002	77.28	-0.0002	-0.0004	.0007

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	-0.0003	.1458	.4194	1.513	.0017	-0.0007	3.125	-0.0003	-0.0002
Stddev	.0002	.0027	.0258	.030	.0001	.013	.0002	.0000	.0000
%RSD	60.44	1.883	6.145	1.986	3.377	17.07	.4279	77.35	22.58

#1	-0.0005	.1462	.4491	1.534	.0017	-0.0005	3.133	-0.0002	-0.0002
#2	-0.0004	.1429	.4028	1.479	.0017	-0.0007	3.110	-0.0006	-0.0002
#3	-0.0001	.1483	.4064	1.527	.0016	-0.0007	3.133	-0.0001	-0.0001

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)	(Y_2243)
Avg	.0012	.0002	.7133	.0004	.5282	.0000	-0.0015	.0010	.0016
Stddev	.0008	.0011	.0111	.0001	.0019	.0001	.0006	.0001	.0000
%RSD	64.72	534.0	.1518	12.68	.3648	254.3	38.16	11.16	.8379

#1	.0011	-0.0010	.7123	.0004	.5304	.0001	-0.0009	.0011	.0016
#2	.0020	.0005	.7131	.0005	.5271	.0000	-0.0019	.0009	.0016
#3	.0005	.0012	.7144	.0004	.5271	.0000	-0.0018	.0009	.0016

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2328.8	5352.1	46259.	4780.4
Stddev	3.0	7.8	224.	44.5
%RSD	.12935	.14518	.48319	.93070

#1	2331.6	5357.1	46045.	4741.0
#2	2325.6	5343.1	46491.	4828.7
#3	2329.1	5356.0	46242.	4771.6

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Sample Name: FA36513-5 Acquired: 9/1/2016 10:43:46 Type:UNK
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0.0006	.0165	.0117	.0022	-0.0002	99.76	-0.0002	-0.0004	.0007
Stddev	.0001	.0010	.0007	.0002	.0000	.02	.0001	.0000	.0002
%RSD	16.77	6.183	6.344	10.61	18.44	.0200	35.64	13.34	22.00

#1	-0.0005	.0156	.0117	.0020	-0.0002	99.77	-0.0002	-0.0004	.0007
#2	-0.0007	.0162	.0110	.0024	-0.0003	99.77	-0.0001	-0.0003	.0009
#3	-0.0007	.0176	.0125	.0023	-0.0002	99.73	-0.0002	-0.0004	.0006

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	-0.0002	2.399	2.988	5.858	.0307	-0.0002	26.17	-0.0003	-0.0004
Stddev	.0001	.001	.018	.043	.0002	.0002	.09	.0002	.0006
%RSD	90.19	.0409	.6100	.7255	.7274	122.3	.3359	48.58	136.3

#1	-0.0003	2.398	2.989	5.809	.0309	-0.0002	26.16	-0.0002	.0002
#2	-0.0001	2.398	2.969	5.883	.0307	.0000	26.08	-0.0005	-0.0009
#3	.0000	2.400	3.005	5.882	.0305	-0.0004	26.26	-0.0003	-0.0005

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0015	.0033	2.795	.0000	.8469	.0002	.0000	.0011	.0004
Stddev	.0020	.0012	.004	.000	.0033	.0001	.0008	.0001	.0000
%RSD	133.6	36.81	.1414	6235.	.3874	72.56	5056.	12.97	3.814

#1	.0034	.0042	2.792	-0.0001	.8488	.0001	.0000	.0010	.0004
#2	.0018	.0037	2.794	-0.0001	.8431	.0001	-0.0007	.0012	.0004
#3	-0.0006	.0019	2.799	.0002	.8487	.0004	.0008	.0010	.0004

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2265.9	5287.3	45504.	4739.3
Stddev	3.0	11.3	223.	13.5
%RSD	.13071	.21417	.49044	.28388

#1	2268.1	5296.4	45346.	4743.9
#2	2262.6	5290.8	45407.	4724.1
#3	2267.2	5274.6	45760.	4749.8

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Sample Name: FA36526-1 Acquired: 9/1/2016 10:48:14 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	-0002	0049	-0005	0376	0031	38.99	-0001	-0003	0008
Stddev	.0001	.0053	.0002	.0004	.0001	.05	.0000	.0001	.0001
%RSD	88.42	108.5	54.92	1.022	3.016	1.284	24.86	23.10	8.569

#1	-0003	0098	-0003	0372	0030	38.95	-0001	-0003	0008
#2	-0001	-0007	-0003	0377	0030	38.98	-0001	-0004	0008
#3	-0001	0055	-0007	0379	0032	39.05	-0001	-0004	0007

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	0020	0492	8692	6.763	0336	0042	18.15	-0001	-0013
Stddev	.0003	.0018	.0070	.053	.0002	.0001	.08	.0001	.0006
%RSD	12.49	3.738	.8032	.7797	.6141	2.375	4.291	70.41	47.82

#1	0022	0495	.8628	6.720	0334	0041	18.11	-0001	-0019
#2	0017	0509	.8681	6.746	0335	0043	18.10	0000	-0012
#3	0022	0473	.8767	6.821	0338	0043	18.24	-0001	-0007

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_2243)	(Y_2243)	(Y_2243)
Avg	0005	0020	11.50	-0001	1780	0000	-0018	0012	0033
Stddev	.0011	.0010	.01	.0004	.0011	.000	.0013	.0001	.0001
%RSD	197.3	49.21	.0920	580.1	.5909	398.1	72.31	7.433	2.542

#1	-0007	0009	11.50	0004	.1778	0000	-0006	0012	0033
#2	0012	0024	11.50	-0004	.1770	-0001	-0032	0011	0034
#3	0011	0027	11.52	-0002	.1791	0001	-0015	0013	0032

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2347.0	5414.7	46744.	4784.6
Stddev	4.6	5.1	126.	1.2
%RSD	.19408	.09339	.26998	.02590

#1	2350.9	5416.8	46876.	4784.1
#2	2348.2	5418.4	46730.	4786.0
#3	2342.0	5409.0	46625.	4783.8

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Sample Name: FA36533-1 Acquired: 9/1/2016 10:57:13 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0002	0216	-0015	0126	-0002	22.72	-0002	0005	0011
Stddev	.0003	.0105	.0002	.0001	.0000	.06	.0000	.0001	.0003
%RSD	133.0	48.42	13.14	.8242	12.70	.2726	6.200	12.81	25.84

#1	-0002	0185	-0015	0126	-0002	22.65	-0002	0006	0014
#2	-0005	0131	-0013	0128	-0002	22.76	-0002	0004	0008
#3	0001	0333	-0017	0126	-0002	22.75	-0002	0005	0011

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	-0006	3.620	.6735	.6921	.0099	-0012	8.552	-0004	0005
Stddev	.0000	.007	.0132	.0188	.0000	.0002	.010	.0001	.0006
%RSD	7.115	.1833	1.963	2.711	.4601	13.05	1.208	32.94	116.1

#1	-0006	3.616	.6876	.6980	.0100	-0012	8.545	-0006	0012
#2	-0005	3.627	.6614	.6711	.0099	-0013	8.548	-0004	0000
#3	-0005	3.615	.6715	.7072	.0099	-0010	8.564	-0003	0003

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0015	0021	1.437	0001	0668	-0002	-0019	0002	0040
Stddev	.0008	.0004	.003	.0002	.0003	.0001	.0003	.0001	.0001
%RSD	55.19	21.45	.1889	221.5	.4732	65.44	13.70	82.38	1.435

#1	0024	0025	1.435	0002	0664	0000	-0017	0001	0040
#2	0013	0016	1.440	-0002	0670	-0002	-0022	0000	0040
#3	0008	0021	1.436	0003	0669	-0002	-0017	0003	0041

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2393.8	5447.9	47119.	4754.8
Stddev	7.3	1.9	62.	19.1
%RSD	.30582	.03437	.13190	.40171

#1	2389.3	5446.4	47086.	4770.1
#2	2402.2	5450.0	47191.	4733.4
#3	2389.8	5447.4	47081.	4760.8

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Sample Name: FA36526-1F Acquired: 9/1/2016 10:52:44 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0004	0069	-0015	0366	0028	39.08	-0002	0008	0005
Stddev	.0004	.0035	.0008	.0001	.0001	.17	.0001	.0000	.0002
%RSD	90.85	50.38	56.30	.1377	3.208	.4373	34.78	1.933	33.33

#1	-0004	0062	-0009	0366	0029	38.98	-0001	0008	0003
#2	0000	0106	-0011	0365	0027	38.99	-0002	0008	0005
#3	-0007	0038	-0025	0366	0027	39.28	-0002	0008	0007

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	0019	0202	8282	6.729	0318	0045	18.51	0001	-0018
Stddev	.0000	.0015	.0313	.024	.0001	.0001	.02	.0001	.0004
%RSD	1.810	7.395	3.778	.3495	.2496	2.151	.1309	165.0	24.32

#1	0019	0216	.8617	6.702	0318	0044	18.48	0002	-0013
#2	0019	0186	.7998	6.743	0317	0044	18.53	0000	-0022
#3	0019	0204	.8232	6.743	0319	0046	18.52	0000	-0019

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0012	0022	11.60	0000	1774	-0002	-0037	0012	0019
Stddev	.0006	.0022	.02	.000	.0003	.0001	.0004	.0002	.0001
%RSD	49.90	101.1	.1869	3185.	.1504	39.71	10.32	18.17	3.228

#1	0014	0035	11.59	-0005	.1777	-0002	-0038	0014	0019
#2	0017	-0004	11.58	0003	.1773	-0001	-0040	0010	0018
#3	0005	0034	11.62	0002	.1771	-0002	-0032	0013	0019

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2344.8	5398.2	46482.	4772.4
Stddev	6.7	5.7	157.	27.7
%RSD	.28787	.10504	.33772	.58142

#1	2337.0	5395.0	46357.	4788.5
#2	2348.8	5404.8	46432.	4788.3
#3	2348.5	5394.9	46658.	4740.4

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Sample Name: FA36533-2 Acquired: 9/1/2016 11:01:42 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0006	0288	0001	0045	-0002	1.292	-0002	-0002	0009
Stddev	.0002	.0087	.0003	.0004	.0001	.003	.0001	.0000	.0003
%RSD	30.30	30.15	647.6	9.089	30.74	.2395	23.68	9.018	30.09

#1	-0007	0218	-0002	0041	-0002	1.295	-0003	-0002	0010
#2	-0004	0386	0000	0049	-0003	1.290	-0002	-0002	0010
#3	-0007	0262	0004	0045	-0002	1.291	-0002	-0002	0006

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	-0006	2.324	.7209	.8088	.0015	-0012	49.65	-0004	0008
Stddev	.0001	.011	.0184	.0249	.0000	.0001	.09	.0001	.0004
%RSD	16.12	.4926	2.557	3.083	1.719	6.266	.1811	20.95	42.67

#1	-0005	2.328	.7145	.8374	.0015	-0013	49.72	-0003	-0007
#2	-0007	2.334	.7417	.7967	.0015	-0011	49.55	-0004	-0013
#3	-0006	2.311	.7065	.7922	.0015	-0012	49.68	-0005	-0006

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0006	0008	5242	0003	0014	-0007	-0009	0003	0021
Stddev	.0010	.0022	.0010	.0003	.0001	.0001	.0015	.0002	.0001
%RSD	166.3	265.8	.1980	100.5	6.494	8.396	175.7	83.85	4.681

#1	0005	0022	5242	0002	0013	-0007	-0007	0005	0022
#2	0017	0019	5252	0006	0014	-0008	0006	0004	0020
#3	-0004	-0017	5231	0000	0015	-0008	-0025	0000	0020

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2350.0	5419.5	46648.	4791.3
Stddev	5.7	10.1	181.	19.7
%RSD	.24333	.18691	.38874	.41094

#1	2346.3	5410.2	465
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Sample Name: FA36533-3 Acquired: 9/1/2016 11:06:11 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0006	0562	-0011	0152	-0001	37.52	-0003	-0002	0010
Stddev	.0002	.0113	.0006	.0001	.0000	.08	.0000	.0000	.0004
%RSD	35.87	20.03	52.80	.7651	12.21	.2180	10.12	2.232	34.32
#1	-0006	0621	-0013	0151	-0001	37.61	-0003	-0002	0012
#2	-0009	0634	-0017	0153	-0001	37.49	-0002	-0002	0006
#3	-0004	0433	-0005	0152	-0002	37.45	-0003	-0002	0013
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0000	12.45	1.294	3.028	-0778	-0012	F 119.2	-0005	-0021
Stddev	.000	.01	.023	.043	.0002	.0002	.4	.0001	.0004
%RSD	104.7	.1074	1.774	1.421	.2592	16.21	.3239	11.90	19.56
#1	.0000	12.47	1.311	3.040	.0780	-0013	119.6	-0004	-0025
#2	-0001	12.45	1.268	3.064	.0777	-0013	118.9	-0004	-0017
#3	.0000	12.44	1.304	2.980	.0777	-0009	119.2	-0005	-0021
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-0002	0087	4.711	0007	1095	-0002	-0020	0008	0028
Stddev	.0014	.0025	.002	.0005	.0005	.0002	.0022	.0002	.0001
%RSD	567.8	28.76	.0318	61.05	.4982	123.0	109.7	29.64	3.135
#1	.0010	.0060	4.710	.0008	.1099	.0004	-0045	.0008	.0027
#2	.0001	.0109	4.710	.0003	.1089	.0001	-0008	.0010	.0029
#3	-0018	.0094	4.712	.0011	.1096	.0000	-0007	.0005	.0027
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	2242.8	5331.3	45284.	4748.5					
Stddev	4.0	7.9	139.	24.2					
%RSD	.18046	.14821	.30692	.51037					
#1	2238.1	5334.8	45172.	4723.3					
#2	2245.0	5336.8	45241.	4750.6					
#3	2245.2	5322.2	45440.	4771.6					

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Sample Name: FA36536-1 Acquired: 9/1/2016 11:10:39 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0003	-0062	-0012	-0005	-0002	.0145	-0002	-0002	.0004
Stddev	.0001	.0081	.0006	.0001	.0000	.0024	.0001	.0000	.0002
%RSD	22.28	129.8	47.51	11.07	16.39	16.40	29.21	16.36	56.83
#1	-0004	-0008	-0013	-0005	-0002	.0151	-0002	-0003	.0003
#2	-0003	-0151	-0006	-0005	-0001	.0164	-0001	-0003	.0002
#3	-0003	-0044	-0017	-0006	-0002	.0118	-0002	-0002	.0007
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	0022	-0033	0220	-0042	-0001	-0012	0442	-0005	0000
Stddev	.0001	.0022	.0049	.0070	.0000	.0001	.0085	.0002	.001
%RSD	3.678	65.75	22.03	167.1	34.42	6.337	19.27	47.64	2613.
#1	.0021	-0014	.0218	-0003	-0001	-0013	.0508	-0003	.0000
#2	.0023	-0029	.0270	-0123	-0001	-0011	.0346	-0007	.0008
#3	.0022	-0056	.0173	.0000	-0001	-0012	.0472	-0003	-0009
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-0001	0015	0052	-0001	-0002	-0009	-0011	0000	0022
Stddev	.0011	.0023	.0001	.0003	.0001	.0000	.0007	.000	.0001
%RSD	745.5	154.5	2.503	288.0	34.09	1.531	58.19	800.0	2.646
#1	-0013	.0041	.0053	.0002	-0002	-0009	-0008	.0002	.0022
#2	.0008	.0002	.0052	-0005	-0002	-0009	-0008	-0003	.0022
#3	.0001	.0001	.0051	-0001	-0001	-0009	-0019	.0000	.0023
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	2442.3	5541.0	48118.	4829.9					
Stddev	3.5	11.9	242.	42.8					
%RSD	.14503	.21490	.50254	.88575					
#1	2445.1	5553.3	47850.	4851.7					
#2	2443.5	5540.1	48186.	4857.4					
#3	2438.3	5529.5	48319.	4780.6					

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Sample Name: FA36537-2 Acquired: 9/1/2016 11:15:11 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0001	-0009	-0012	-0004	-0002	0432	-0001	-0002	0005
Stddev	.0002	.0042	.0001	.0002	.0001	.0016	.0000	.0001	.0002
%RSD	148.2	493.0	10.38	44.89	46.30	3.628	32.94	41.42	38.95
#1	.0000	.0031	-0013	-0006	-0001	.0449	-0002	-0003	.0003
#2	-0004	-0053	-0011	-0002	-0002	.0428	-0002	-0002	.0006
#3	.0000	-0003	-0011	-0005	-0002	.0419	-0001	-0001	.0007
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	-0003	-0058	0037	-0096	-0001	-0012	4980	-0002	0000
Stddev	.0001	.0049	.0036	.0163	.0000	.0001	.0050	.0001	.000
%RSD	51.01	84.77	98.80	170.4	20.70	5.622	1.217	55.57	2115.
#1	-0001	-0114	.0013	-0283	-0001	-0011	.4978	-0004	.0003
#2	-0004	-0025	.0078	.0011	-0001	-0012	.4893	-0002	-0005
#3	-0004	-0034	.0018	-0014	-0001	-0012	.5010	-0002	.0001
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-0005	0014	0058	0000	0002	-0008	-0009	-0001	0003
Stddev	.0012	.0008	.0004	.000	.0001	.0000	.0008	.0001	.0000
%RSD	268.5	54.84	7.186	1361.	40.96	5.203	80.74	82.21	18.34
#1	.0009	.0017	.0061	-0002	.0003	-0008	-0013	-0001	.0003
#2	-0015	.0019	.0059	.0003	.0001	-0008	-0014	-0003	.0002
#3	-0008	.0005	.0053	-0001	.0001	-0007	-0001	-0001	.0002
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	2445.6	5530.4	48233.	4801.4					
Stddev	3.2	6.5	275.	8.0					
%RSD	.13012	.11711	.56957	.16763					
#1	2444.4	5534.5	48544.	4805.3					
#2	2449.2	5522.9	48132.	4792.2					
#3	2443.2	5533.7	48023.	4806.8					

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◀ Zoom In ▶
Zoom Out

Sample Name: CCV Acquired: 9/1/2016 11:19:43 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2803	38.79	1.940	1.983	2.008	40.29	1.991	2.022	2.049
Stddev	.0003	.19	.004	.007	.009	.14	.002	.004	.004
%RSD	.1256	.4881	.1833	.3533	.4518	.3547	.1173	.1850	.1896
#1	.2606	39.00	1.940	1.991	2.016	40.43	1.992	2.021	2.049
#2	.2600	38.71	1.937	1.977	2.009	40.29	1.988	2.018	2.045
#3	.2602	38.65	1.944	1.982	1.998	40.15	1.992	2.026	2.052
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.041	37.72	39.96	39.79	2.162	1.989	40.05	1.967	1.986
Stddev	.007	.09	.16	.21	.004	.003	.10	.004	.002
%RSD	.3355	.2422	.4044	.5203	.1893	.1429	.2617	.1820	.0795
#1	2.034	37.82	40.14	39.85	2.161	1.988	40.16	1.969	1.985
#2	2.048	37.72	39.94	39.97	2.159	1.987	40.01	1.963	1.988
#3	2.041	37.64	39.81	39.57	2.167	1.992	39.96	1.969	1.987
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.949	1.964	1.993	2.052	1.984	1.985	1.979	2.115	2.074
Stddev	.002	.003	.002	.005	.008	.002	.007	.004	.003
%RSD	.1033	.1585	.0882	.2501	.4033	.1063	.3530	.2138	.1400
#1	1.948	1.965	1.993	2.049	1.992	1.984	1.977	2.113	2.074
#2	1.948	1.961	1.992	2.048	1.984	1.983	1.987	2.112	2.071
#3	1.952	1.967	1.995	2.058	1.976	1.987	1.974	2.121	2.077
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: CCV Acquired: 9/1/2016 11:19:43 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2172.0	5331.3	45481.	4689.2
Stddev	5.1	16.2	53.	24.8
%RSD	.23672	.30453	.11592	.52985
#1	2177.4	5339.4	45517.	4668.2
#2	2171.4	5341.8	45507.	4682.7
#3	2167.2	5312.6	45421.	4716.6

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Sample Name: CCB Acquired: 9/1/2016 11:23:53 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	-.0008	.0001	.0003	.0002	.0007	.0001	.0001	.0002
Stddev	.0003	.0076	.0006	.0001	.0001	.0039	.0001	.0000	.0001
%RSD	165.0	927.8	493.9	27.14	43.45	587.0	122.0	24.80	60.00
#1	-.0004	-.0009	.0008	.0003	.0003	.0051	.0002	.0001	.0004
#2	-.0004	.0068	-.0005	.0004	.0003	-.0026	.0000	.0002	.0002
#3	.0002	-.0084	.0002	.0002	.0001	-.0005	.0000	.0001	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0097	.0121	-.0015	.0002	-.0001	.0143	.0000	.0004
Stddev	.000	.0053	.0077	.0304	.0001	.0003	.0118	.0002	.0002
%RSD	113.5	54.70	63.60	2025.	39.55	393.1	82.67	2087.	45.94
#1	.0000	.0157	.0156	.0336	.0002	.0003	.0145	.0000	.0006
#2	-.0001	.0078	.0033	-.0187	.0001	-.0002	.0260	-.0002	.0004
#3	-.0001	.0056	.0175	-.0194	.0001	-.0003	.0024	.0003	.0002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0010	.0011	.0001	.0003	.0004	.0011	.0003	-.0003
Stddev	.0002	.0004	.0003	.0001	.0000	.0001	.0018	.0000	.0000
%RSD	51.62	45.97	30.38	53.70	15.02	32.72	159.6	19.37	13.52
#1	.0002	.0011	.0010	.0002	.0004	.0006	.0017	.0003	-.0003
#2	.0002	.0014	.0008	.0001	.0003	.0004	-.0009	.0002	-.0002
#3	.0005	.0005	.0015	.0001	.0003	.0003	.0025	.0002	-.0003

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCB Acquired: 9/1/2016 11:23:53 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2455.7	5607.9	48041.	4819.2
Stddev	.3	2.8	90.	24.0
%RSD	.01050	.04931	.18806	.49848
#1	2456.0	5609.7	48145.	4805.4
#2	2455.5	5609.3	47995.	4805.2
#3	2455.7	5604.7	47983.	4846.9

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Sample Name: ICV Acquired: 9/1/2016 11:50:38 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.509	39.79	2.037	2.031	2.050	40.28	2.061	2.055	2.069
Stddev	.0013	.22	.004	.008	.009	.25	.007	.005	.007
%RSD	.5288	.5435	.1913	.4050	.4208	.6100	.3580	.2513	.3468
#1	2.502	39.75	2.040	2.037	2.052	40.37	2.064	2.057	2.077
#2	2.524	39.60	2.040	2.021	2.041	40.00	2.066	2.058	2.064
#3	2.501	40.02	2.033	2.034	2.057	40.47	2.052	2.049	2.066

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.045	40.26	39.80	40.32	2.086	2.046	39.74	2.056	2.032
Stddev	.005	.33	.17	.32	.005	.002	.17	.007	.008
%RSD	.2396	.8202	.4372	.7818	.2239	.0956	.4228	.3431	.3877
#1	2.050	40.26	39.81	40.38	2.091	2.045	39.81	2.057	2.034
#2	2.045	39.93	39.61	39.98	2.082	2.048	39.55	2.063	2.039
#3	2.041	40.59	39.96	40.60	2.085	2.044	39.86	2.049	2.024

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.029	2.039	1.655	2.039	2.017	2.080	2.043	2.058	2.068
Stddev	.004	.006	.003	.007	.006	.006	.011	.005	.009
%RSD	.1771	.2911	.1532	.3344	.2833	.3140	.5127	.2439	.4601
#1	2.026	2.036	1.652	2.039	2.016	2.085	2.044	2.063	2.069
#2	2.033	2.046	1.657	2.045	2.012	2.073	2.052	2.054	2.076
#3	2.029	2.036	1.656	2.031	2.023	2.082	2.031	2.055	2.057

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: ICV Acquired: 9/1/2016 11:50:38 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2166.2	5341.0	45543.	4673.2
Stddev	3.4	3.3	154.	22.1
%RSD	.15517	.06133	.33868	.47200

#1 2168.1 5340.2 45457. 4685.8
#2 2162.3 5338.2 45721. 4686.1
#3 2168.2 5344.6 45452. 4647.8

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Sample Name: CCV Acquired: 9/1/2016 11:56:04 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2536	39.99	2.009	2.003	2.021	40.30	2.035	2.025	2.041
Stddev	.0010	.05	.002	.002	.005	.03	.003	.001	.009
%RSD	.3972	.1229	.0934	.0947	.2466	.0676	.1514	.0559	.4222

#1 2544 40.05 2.007 2.006 2.024 40.28 2.033 2.024 2.038
#2 2525 39.98 2.010 2.003 2.024 40.33 2.039 2.026 2.050
#3 2539 39.95 2.010 2.002 2.015 40.30 2.035 2.025 2.034

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.015	39.41	39.89	40.21	2.057	2.013	39.92	2.032	1.999
Stddev	.012	.10	.11	.07	.012	.002	.06	.002	.006
%RSD	.6088	.2500	.2686	.1753	.5970	.0961	.1590	.0915	.2957

#1 2.027 39.32 39.99 40.13 2.058 2.011 39.97 2.031 1.997
#2 2.002 39.51 39.91 40.27 2.069 2.015 39.94 2.034 1.995
#3 2.017 39.39 39.78 40.24 2.044 2.014 39.84 2.033 2.006

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.003	2.016	2.049	2.024	2.007	2.057	2.016	2.036	2.037
Stddev	.005	.002	.003	.003	.006	.005	.004	.007	.004
%RSD	.2537	.1182	.1660	.1463	.2825	.2603	.1712	.3284	.1834

#1 1.997 2.017 2.046 2.022 2.013 2.059 2.014 2.035 2.034
#2 2.006 2.018 2.053 2.027 2.008 2.060 2.014 2.043 2.041
#3 2.006 2.013 2.049 2.021 2.001 2.051 2.020 2.030 2.035

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: CCV Acquired: 9/1/2016 11:56:04 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2163.3	5322.9	45305.	4684.3
Stddev	7.3	14.8	314.	14.0
%RSD	.33865	.27716	.69321	.29872

#1 2171.6 5339.2 45191. 4698.8
#2 2160.3 5310.3 45063. 4683.0
#3 2158.0 5319.4 45660. 4670.9

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Sample Name: CCB Acquired: 9/1/2016 12:03:11 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.002	.0042	-0.004	.0001	.0002	.0021	.0002	.0001	.0003
Stddev	.0004	.0103	.0014	.0001	.0001	.0003	.0001	.0001	.0004
%RSD	270.2	246.0	351.1	74.45	52.75	14.37	39.42	193.1	124.1

#1 -0.004 -0.0076 .0008 .0000 .0003 .0018 .0002 .0000 .0005
#2 -0.003 .0112 -0.0019 .0001 .0002 .0020 .0001 .0000 -0.001
#3 -0.004 .0089 -0.0001 .0002 .0001 .0024 .0001 .0002 .0006

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0066	.0205	-0.0311	.0002	.0005	.0085	.0004	.0003
Stddev	.0002	.0040	.0180	.0182	.0001	.0001	.0017	.0001	.0012
%RSD	94.53	60.61	87.90	58.50	32.76	12.98	20.26	26.68	392.4

#1 .0000 .0110 .0339 -0.0379 .0002 .0006 .0073 .0003 .0005
#2 .0004 .0057 .0000 -0.0449 .0001 .0005 .0078 .0004 -0.0010
#3 .0003 .0031 .0276 -0.1005 .0001 .0006 .0105 .0005 .0013

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0013	.0002	.0005	.0002	.0005	-0.0005	.0003	.0002
Stddev	.0008	.0007	.0005	.0002	.0001	.0000	.0008	.0001	.0000
%RSD	2961.	55.36	309.9	50.57	74.83	8.984	149.7	36.37	28.50

#1 .0000 .0007 -0.0002 .0008 .0003 .0005 .0004 .0004 .0002
#2 .0008 .0020 .0000 .0003 .0001 .0005 -0.0009 .0002 .0001
#3 -0.0007 .0011 .0007 .0004 .0001 .0005 -0.0011 .0003 .0002

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCB Acquired: 9/1/2016 12:03:11 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2455.1	5601.0	47838.	4822.8
Stddev	2.7	6.5	80.	47.7
%RSD	.10800	.11582	.16694	.98947

#1	2457.6	5607.9	47779.	4871.2
#2	2455.5	5600.1	47806.	4775.8
#3	2452.3	5595.1	47929.	4821.5

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Sample Name: FA36542-1 Acquired: 9/1/2016 12:06:59 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0009	3.581	.0017	.0814	.0002	56.67	.0014	.0023	.0213
Stddev	.0002	.007	.0011	.0004	.0000	.22	.0000	.0001	.0002
%RSD	21.27	.2096	61.93	.5113	14.31	.3932	1.448	2.446	1.109

#1	.0011	3.589	.0017	.0813	.0002	56.92	.0014	.0023	.0214
#2	.0008	3.579	.0028	.0818	.0002	56.55	.0014	.0024	.0210
#3	.0008	3.574	.0007	.0810	.0002	56.53	.0014	.0023	.0213

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.1758	6.947	4.310	2.787	.0787	.0115	2.555	.0282	.1050
Stddev	.0004	.010	.022	.024	.0004	.0001	.009	.0002	.0008
%RSD	.2021	.1494	.5112	.8641	.5086	1.189	.3455	.6191	.7596

#1	.1758	6.951	4.320	2.813	.0786	.0114	2.546	.0284	.1051
#2	.1761	6.935	4.285	2.766	.0791	.0116	2.563	.0281	.1041
#3	.1754	6.954	4.325	2.782	.0783	.0114	2.557	.0280	.1057

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0042	.0008	2.934	.0062	.1771	.0818	-.0025	.0126	.7580
Stddev	.0005	.0016	.004	.0002	.0005	.0003	.0005	.0002	.0016
%RSD	11.72	188.9	.1250	2.928	.2715	.4036	18.88	1.243	.2164

#1	.0037	.0019	2.934	.0060	.1768	.0817	-.0030	.0127	.7570
#2	.0043	.0015	2.930	.0061	.1777	.0822	-.0021	.0125	.7599
#3	.0046	-.0010	2.937	.0064	.1768	.0815	-.0025	.0125	.7571

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2334.6	5448.3	46942.	4796.3
Stddev	3.9	10.1	177.	34.0
%RSD	.16718	.18543	.37707	.70818

#1	2331.9	5450.1	46744.	4759.6
#2	2332.8	5457.3	46997.	4826.7
#3	2339.1	5437.4	47085.	4802.6

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Sample Name: FA36549-3 Acquired: 9/1/2016 12:11:22 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0037	.0803	-.0018	.0458	.0005	44.78	.0001	.2984	.0688
Stddev	.0001	.0091	.0011	.0001	.0001	.20	.0000	.0003	.0003
%RSD	1.895	11.33	61.92	.1519	18.21	.4526	46.62	.1149	.4622

#1	.0037	.0736	-.0026	.0458	.0004	44.87	.0001	.2988	.0688
#2	.0036	.0767	-.0005	.0457	.0005	44.92	.0001	.2981	.0691
#3	.0037	.0907	-.0021	.0459	.0005	44.55	.0001	.2983	.0685

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0071	.6804	F 730.8	14.86	.0201	.1565	23.35	.8399	-.0018
Stddev	.0002	.0064	10.0	.03	.0001	.0005	.13	.0020	.0004
%RSD	2.970	.9462	1.363	.1948	.6779	.3493	.5424	.2343	19.07

#1	.0073	.6845	736.9	14.88	.0202	.1562	23.46	.8394	-.0021
#2	.0071	.6837	736.1	14.88	.0202	.1562	23.38	.8382	-.0020
#3	.0069	.6730	719.3	14.83	.0199	.1571	23.22	.8420	-.0015

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0019	.0061	22.42	.0017	.3094	.0097	-.0018	.0011	.0115
Stddev	.0006	.0019	.03	.0001	.0022	.0001	.0013	.0003	.0001
%RSD	30.99	31.50	.1282	5.666	.7159	1.001	70.34	29.54	1.273

#1	.0024	.0050	22.42	.0016	.3107	.0097	-.0027	.0013	.0114
#2	.0021	.0049	22.40	.0018	.3107	.0098	-.0004	.0007	.0115
#3	.0012	.0083	22.46	.0016	.3069	.0097	-.0024	.0014	.0117

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2030.6	5090.2	41525.	4479.7
Stddev	4.9	4.7	197.	31.3
%RSD	.24154	.09182	.47377	.69876

#1	2036.2	5092.8	41737.	4471.4
#2	2027.2	5092.9	41348.	4453.4
#3	2028.3	5084.8	41490.	4514.3

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Sample Name: FA36549-5 Acquired: 9/1/2016 12:15:50 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0176	.1628	-.0023	.0127	-.0001	40.11	-.0003	.2723	.0923
Stddev	.0001	.0052	.0005	.0001	.0000	.10	.0000	.0004	.0007
%RSD	.3984	3.203	20.99	1.112	34.46	.2583	14.22	.1508	.7506

#1	.0175	.1676	-.0017	.0128	-.0001	40.10	-.0003	.2722	.0919
#2	.0176	.1634	-.0026	.0126	-.0001	40.22	-.0003	.2719	.0931
#3	.0176	.1573	-.0025	.0127	-.0001	40.02	-.0003	.2727	.0918

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0064	.8014	F 773.6	10.79	.0197	.1589	49.02	.7022	-.0017
Stddev	.0001	.0096	11.0	.02	.0000	.0006	.11	.0010	.0008
%RSD	1.125	1.064	1.422	.2236	.2528	.3542	.2322	.1470	43.76

#1	.0063	.8960	780.1	10.78	.0197	.1582	48.92	.7033	-.0009
#2	.0065	.9124	779.9	10.82	.0197	.1591	49.01	.7020	-.0024
#3	.0064	.8956	760.9	10.78	.0197	.1593	49.14	.7013	-.0019

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0015	.0028	29.24	.0008	.2734	.0098	-.0035	.0012	.0072
Stddev	.0006	.0013	.04	.0002	.0015	.0001	.0010	.0004	.0001
%RSD	42.56	47.62	.1367	20.48	.5505	.7875	29.34	31.87	1.161

#1	.0021	.0037	29.26	.0010	.2717	.0097	-.0025	.0010	.0071
#2	.0015	.0035	29.19	.0007	.2745	.0098	-.0035	.0016	.0073
#3	.0009	.0013	29.25	.0008	.2741	.0098	-.0046	.0010	.0072

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2027.2	5073.5	41775.	4605.2
Stddev	5.6	7.3	146.	34.0
%RSD	.27678	.14331	.34863	.73897

#1	2020.8	5073.0	41917.	4576.8
#2	2031.2	5081.0	41626.	4595.8
#3	2029.6	5066.5	41782.	4642.9

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Sample Name: FA36549-7 Acquired: 9/1/2016 12:20:23 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.1157	.7812	-.0017	.0415	-.0001	44.59	-.0002	.1920	.0555
Stddev	.0001	.0239	.0006	.0002	.0001	.09	.0000	.0005	.0004
%RSD	.0536	3.063	35.83	.4967	44.59	.2007	5.795	.2667	.7504

#1	.1157	.7582	-.0016	.0412	-.0002	44.55	-.0002	.1924	.0551
#2	.1156	.8059	-.0012	.0415	-.0001	44.69	-.0002	.1923	.0554
#3	.1156	.7796	-.0024	.0417	-.0002	44.52	-.0002	.1914	.0559

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0077	.5042	F 1179.	12.58	.0211	.1751	55.92	.3999	-.0024
Stddev	.0001	.0043	.17	.04	.0001	.0002	.22	.0007	.0010
%RSD	1.911	.8627	1.471	.2866	.5971	.1028	.3883	.1676	42.12

#1	.0077	.5070	1159.	12.57	.0210	.1751	55.83	.3996	-.0025
#2	.0078	.5065	1190.	12.62	.0211	.1753	56.17	.4007	-.0035
#3	.0075	.4992	1188.	12.56	.0213	.1750	55.77	.3994	-.0014

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-.0001	.0006	31.55	.0009	.2852	.0739	-.0046	.0049	.0102
Stddev	.0010	.0025	.02	.0004	.0014	.0005	.0015	.0003	.0001
%RSD	1254.	394.6	.0583	43.97	.4808	.6818	32.34	5.488	.5761

#1	-.0003	.0033	31.56	.0008	.2852	.0741	-.0044	.0046	.0102
#2	-.0010	.0002	31.57	.0005	.2865	.0733	-.0063	.0050	.0101
#3	.0010	-.0016	31.53	.0012	.2838	.0743	-.0033	.0052	.0101

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	1963.7	5051.4	41251.	4611.2
Stddev	5.8	8.2	95.	42.1
%RSD	.29468	.16231	.23149	.91392

#1	1966.9	5050.9	41264.	4620.8
#2	1967.1	5043.4	41150.	4565.1
#3	1957.0	5059.8	41340.	4647.8

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Sample Name: FA36429-1 Acquired: 9/1/2016 12:29:21 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)
Avg	-.0009	2.644	.0139	.0881	-.0001	153.0	-.0004	.0306
Stddev	.0002	.038	.0004	.0005	.0001	.2	.0001	.0002
%RSD	18.92	1.451	2.550	.5566	57.73	.1092	23.33	.5634

#1	-.0008	2.608	.0135	.0881	-.0001	152.9	-.0003	.0307
#2	-.0011	2.684	.0142	.0886	-.0002	153.1	-.0005	.0304
#3	-.0008	2.639	.0140	.0877	-.0001	152.9	-.0003	.0307

Elem	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895
IS Ref	(Y_3600)	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Avg	.1078	.1853	127.9	44.51	26.69	F 4.152	3.873	F 166.4
Stddev	.0003	.0006	.5	.06	.10	.021	.007	.4
%RSD	.2607	.3318	.4071	.1395	.3613	.5025	.1789	.2645

#1	.1076	.1860	127.7	44.57	26.59	4.131	3.880	166.4
#2	.1076	.1851	128.5	44.53	26.78	4.154	3.866	166.7
#3	.1081	.1848	127.5	44.45	26.71	4.172	3.874	165.9

Elem	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349
IS Ref	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)
Avg	.2072	.0734	.0763	.0211	10.10	.0573	.1027	.0192
Stddev	.0005	.0010	.0024	.0007	.03	.0006	.0004	.0000
%RSD	.2649	1.380	3.128	3.137	.3006	1.083	.4381	.0952

#1	.2078	.0724	.0790	.0206	10.13	.0576	.1026	.0192
#2	.2069	.0732	.0748	.0208	10.07	.0566	.1032	.0192
#3	.2069	.0745	.0750	.0219	10.10	.0577	.1023	.0192

Elem	Ti1908	V_2924	Zn2062
IS Ref	(In2306)	(Y_3600)	(Y_2243)
Avg	F -.0198	.0143	F 33.69
Stddev	.0006	.0002	.40
%RSD	2.778	1.062	1.176

#1	-.0204	.0145	33.98
#2	-.0197	.0143	33.24
#3	-.0194	.0142	33.86

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Sample Name: FA36552-1 Acquired: 9/1/2016 12:24:54 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0000	.0198	-.0001	.1624	-.0001	109.7	.0006	-.0002	.0012
Stddev	.000	.0074	.0004	.0005	.0000	.3	.0000	.0000	.0002
%RSD	1920.	37.26	681.8	.2900	9.923	.2450	2.900	8.066	12.96

#1	.0002	.0208	-.0002	.1619	-.0001	109.6	.0006	-.0002	.0014
#2	-.0002	.0119	-.0004	.1628	-.0001	109.5	.0006	-.0002	.0013
#3	.0000	.0266	.0004	.1624	-.0001	110.0	.0006	-.0002	.0011

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0121	.0262	16.98	4.303	.0347	.0316	36.40	.0041	.0000
Stddev	.0001	.0037	.00	.033	.0002	.0001	.04	.0001	.0009
%RSD	1.017	14.25	.0081	.7752	.4407	.2560	.1217	3.538	4646.

#1	.0119	.0235	16.98	4.316	.0345	.0317	36.35	.0043	-.0010
#2	.0122	.0305	16.97	4.265	.0348	.0317	36.43	.0040	.0002
#3	.0121	.0246	16.98	4.328	.0348	.0315	36.43	.0041	.0008

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0119	.0020	3.760	.0008	.5602	.0007	-.0015	.0078	.0690
Stddev	.0007	.0027	.012	.0002	.0003	.0002	.0008	.0002	.0003
%RSD	5.586	136.9	.3271	26.27	.0502	29.77	49.94	2.403	.4838

#1	.0118	.0035	3.750	.0006	.5599	.0006	-.0018	.0080	.0694
#2	.0125	.0035	3.757	.0008	.5605	.0010	-.0007	.0076	.0688
#3	.0112	-.0011	3.774	.0010	.5602	.0006	-.0021	.0077	.0688

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2240.5	5252.6	44593.	4746.5
Stddev	2.3	12.2	308.	8.5
%RSD	.10075	.23202	.69048	.17992

#1	2243.0	5262.9	44948.	4742.1
#2	2239.8	5255.8	44426.	4756.3
#3	2238.6	5239.2	44404.	4741.0

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Sample Name: FA36429-1 Acquired: 9/1/2016 12:29:21 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	1989.7	4993.5	42014.	4494.3
Stddev	2.5	17.0	94.	24.8
%RSD	.12639	.34041	.22426	.55259

#1	1989.7	4974.2	41963.	4508.7
#2	1992.1	5006.3	42122.	4465.6
#3	1987.1	5000.0	41955.	4508.5

Sample Name: FA36474-2 Acquired: 9/1/2016 12:33:57 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	
Avg	-0003	.0069	.0029	.1816	-0003	.66.42	.0812	.0287	.0028
Stddev	.0003	.0089	.0021	.0007	.0002	.14	.0000	.0002	.0002
%RSD	100.6	129.9	73.43	.4052	63.57	.2099	.0134	.6287	6.979

#1	-.0003	.0152	.0024	.1809	-.0002	66.27	.0812	.0286	.0028
#2	-.0007	-.0026	.0053	.1814	-.0005	66.44	.0812	.0287	.0026
#3	.0000	.0080	.0011	.1824	-.0002	66.55	.0812	.0289	.0030

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0010	6.225	1.129	.8043	.1330	.0244	145.5	.1328	.0320
Stddev	.0002	.006	.025	.0309	.0001	.0004	.5	.0006	.0018
%RSD	19.46	.0946	2.192	3.842	.0565	1.460	.3652	.4485	5.733

#1	.0008	6.218	1.132	.8182	.1330	.0247	145.3	.1327	.0305
#2	.0009	6.229	1.153	.8259	.1331	.0244	145.1	.1322	.0316
#3	.0012	6.227	1.104	.7689	.1330	.0240	146.1	.1334	.0341

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0091	.0051	.1930	.0011	.2205	.0011	-0032	-0002	F 12.27
Stddev	.0008	.0033	.0018	.0011	.0006	.0002	.0014	.0002	.02
%RSD	8.311	64.14	.9183	93.20	.2922	21.06	45.10	113.8	.1454

#1	.0082	.0018	.1938	.0019	.2206	.0008	-.0047	.0000	12.29
#2	.0095	.0051	.1941	.0015	.2198	.0013	-.0019	-.0001	12.25
#3	.0095	.0084	.1909	-.0001	.2211	.0012	-.0029	-.0004	12.26

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2271.0	5379.9	45516.	4748.9
Stddev	2.8	15.3	124.	12.2
%RSD	.12252	.28396	.27188	.25674

#1	2268.0	5376.8	45485.	4736.6
#2	2273.5	5396.5	45652.	4760.9
#3	2271.6	5366.4	45410.	4749.3

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Sample Name: MP30785-D2 Acquired: 9/1/2016 12:38:23 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0002	.0189	.0038	.1862	-0002	66.65	.1599	.0329	.0038
Stddev	.0002	.0028	.0009	.0011	.0001	.19	.0003	.0003	.0003
%RSD	118.7	14.67	22.34	.6053	45.91	.2778	.1813	.8112	6.886

#1	.0002	.0218	.0030	.1874	-.0003	66.86	.1601	.0332	.0038
#2	.0000	.0162	.0047	.1860	-.0002	66.57	.1601	.0326	.0041
#3	.0004	.0188	.0038	.1851	-.0001	66.52	.1596	.0328	.0035

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0007	6.830	1.109	.8402	.1449	.0255	147.4	.1358	.0178
Stddev	.0003	.040	.052	.0257	.0002	.0003	.2	.0006	.0002
%RSD	39.01	.5803	4.716	3.057	.1110	1.343	.1270	.4501	.9984

#1	.0005	6.868	1.069	.8440	.1449	.0259	147.6	.1359	.0178
#2	.0006	6.832	1.168	.8637	.1450	.0253	147.3	.1363	.0176
#3	.0010	6.789	1.089	.8128	.1447	.0253	147.4	.1351	.0180

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0073	-0006	.2160	.0014	.2402	.0008	-0060	.0001	F 11.50
Stddev	.0017	.0018	.0020	.0002	.0002	.0003	.0032	.0006	.02
%RSD	23.87	283.9	.9061	17.32	.0650	39.90	53.53	885.9	.1980

#1	.0077	.0004	.2166	.0017	.2403	.0004	-.0050	.0002	11.49
#2	.0087	.0004	.2138	.0012	.2403	.0008	-.0034	-.0006	11.52
#3	.0053	-.0027	.2176	.0013	.2400	.0010	-.0096	.0006	11.47

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2273.5	5361.7	45575.	4785.7
Stddev	8.1	12.5	193.	19.0
%RSD	.35734	.23283	.42275	.39605

#1	2282.9	5369.6	45686.	4766.0
#2	2269.0	5368.3	45686.	4787.2
#3	2268.7	5347.3	45353.	4803.8

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Sample Name: FA36535-1 Acquired: 9/1/2016 12:42:47 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	
Avg	.5389	195.1	.0925	2.798	.0046	952.2	.0918	.1786	2.124
Stddev	.0028	.1	.0012	.010	.0000	2.2	.0001	.0002	.006
%RSD	.5117	.0527	1.317	.3458	.1761	.2359	.1634	.0942	.2954

#1	.5418	195.0	.0935	2.787	.0046	949.8	.0919	.1788	2.131
#2	.5363	195.2	.0928	2.802	.0046	954.2	.0916	.1785	2.121
#3	.5387	195.1	.0911	2.805	.0046	952.6	.0918	.1785	2.119

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	F 11.67	722.4	15.33	136.7	5.680	.0584	7.654	1.362	F 8.170
Stddev	.02	4.3	.03	.7	.012	.0007	.032	.001	.021
%RSD	.1578	.5951	.2131	.4798	.2110	1.136	.4127	.1024	.2518

#1	11.66	723.1	15.34	137.5	5.687	.0586	7.620	1.360	8.147
#2	11.66	726.4	15.36	136.4	5.666	.0590	7.683	1.362	8.177
#3	11.69	717.8	15.29	136.3	5.686	.0577	7.658	1.363	8.186

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0139	.0030	5.349	1.304	1.454	F 11.43	-0160	.6947	F 8.664
Stddev	.0011	.0061	.013	.002	.004	.01	.0043	.0004	.022
%RSD	7.712	207.4	.2441	.1129	.2434	.0492	26.77	.0545	.2495

#1	.0129	-.0015	5.357	1.304	1.451	11.43	-.0173	.6950	8.640
#2	.0137	.0004	5.334	1.306	1.458	11.42	-.0112	.6949	8.682
#3	.0150	.0100	5.356	1.303	1.452	11.44	-.0194	.6943	8.670

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	1904.2	5508.6	47299.	5083.4
Stddev	4.5	11.6	139.	21.6
%RSD	.23558	.21118	.29364	.42536

#1	1905.9	5506.3	47270.	5058.4
#2	1907.5	5521.2	47450.	5096.1
#3	1899.1	5498.3	47177.	5095.7

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Sample Name: FA36404-1 Acquired: 9/1/2016 12:47:38 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 4.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0021	102.1	.0689	1.744	.0118	71.20	-0010	.0392	.2796
Stddev	.0006	.2	.0024	.007	.0001	.29	.0000	.0005	.0007
%RSD	29.80	.2047	3.515	.3767	.9336	.4013	1.536	1.204	.2411

#1	-.0018	102.3	.0687	1.737	.0120	71.49	-.0010	.0395	.2797
#2	-.0017	101.9	.0714	1.745	.0118	70.92	-.0010	.0387	.2789
#3	-.0028	102.0	.0665	1.750	.0118	71.18	-.0010	.0395	.2803

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.5149	544.3	6.983	71.39	10.46	.0533	29.50	.2079	.3032
Stddev	.0015	.6	.016	.26	.05	.0007	.09	.0003	.0012
%RSD	.2968	.1096	.2228	.3607	.4658	1.342	.3023	.1230	.3826

#1	.5136	544.9	7.001	71.68	10.51	.0525	29.45	.2077	.3019
#2	.5166	543.7	6.975	71.26	10.43	.0538	29.45	.2082	.3040
#3	.5144	544.3	6.974	71.22	10.43	.0536	29.61	.2079	.3038

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0029	-0035	7.436	.0576	.9978	.4422	-0049	.0745	F 20.94
Stddev	.0028	.0068	.007	.0004	.0020	.0024	.0035	.0007	.03
%RSD	98.11	195.1	.0973	.6294	.1987	.5510	72.25	.9290	.1624

#1	.0012	-.0030	7.429	.0580	.9960</
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Sample Name: CCV Acquired: 9/1/2016 12:52:06 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2561	39.67	1.990	1.999	2.028	40.27	2.015	2.024	2.033
Stddev	.0003	.22	.003	.010	.008	.09	.001	.001	.005
%RSD	.1049	.5547	.1596	.4784	.3994	.2138	.0466	.0477	.2416

#1	2558	39.71	1.994	2.003	2.029	40.36	2.015	2.023	2.038
#2	2563	39.87	1.988	2.006	2.036	40.26	2.016	2.025	2.033
#3	2560	39.43	1.989	1.989	2.020	40.19	2.014	2.024	2.028

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.030	38.82	40.09	40.06	2.078	2.009	40.00	2.008	1.984
Stddev	.012	.09	.20	.15	.006	.000	.21	.001	.002
%RSD	.5938	.2250	.4892	.3786	.2806	.0155	.5360	.0253	.0997

#1	2.040	38.90	40.22	40.22	2.077	2.009	40.06	2.009	1.982
#2	2.016	38.83	40.18	40.04	2.084	2.009	40.19	2.008	1.986
#3	2.034	38.72	39.86	39.92	2.072	2.009	39.77	2.008	1.983

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.997	2.001	2.047	2.027	2.008	2.039	2.009	2.056	2.035
Stddev	.004	.005	.000	.001	.013	.008	.004	.002	.003
%RSD	.1861	.2718	.0127	.0494	.6310	.3929	.1870	.0785	.1546

#1	2.001	2.006	2.048	2.028	2.009	2.048	2.010	2.055	2.032
#2	1.993	1.995	2.047	2.026	2.020	2.032	2.005	2.057	2.039
#3	1.996	2.002	2.047	2.028	1.995	2.037	2.012	2.054	2.034

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: CCB Acquired: 9/1/2016 12:56:17 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0027	.0000	.0006	.0003	.0119	.0002	.0002	.0006
Stddev	.000	.0056	.001	.0001	.0000	.0017	.0000	.0002	.0002
%RSD	462.0	206.0	1625.	13.54	12.42	14.46	25.84	94.38	34.58

#1	-.0002	.0031	.0004	.0006	.0003	.0136	.0002	.0003	.0005
#2	.0001	.0082	.0003	.0005	.0004	.0102	.0002	.0001	.0008
#3	.0000	-.0031	-.0008	.0006	.0003	.0118	.0001	.0001	.0004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0187	.0418	-.0222	.0003	F .0011	.0158	.0001	.0001
Stddev	.0002	.0028	.0283	.0344	.0000	.0004	.0041	.0001	.0006
%RSD	60.20	15.00	67.79	154.9	6.135	32.12	26.23	110.4	894.6

#1	.0005	.0219	.0429	-.0346	.0003	.0015	.0195	.0000	-.0001
#2	.0003	.0175	.0696	.0167	.0003	.0009	.0166	.0003	-.0004
#3	.0001	.0168	.0129	-.0486	.0003	.0009	.0113	.0001	.0007

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0001	.0021	.0005	.0003	.0008	-.0003	.0002	.0003
Stddev	.0014	.0010	.0002	.0004	.0002	.0000	.0014	.0000	.0001
%RSD	453.8	795.8	11.75	89.66	44.43	6.385	467.1	12.00	23.05

#1	-.0015	.0007	.0022	.0004	.0005	.0007	.0003	.0002	.0004
#2	.0013	-.0010	.0022	.0010	.0003	.0008	-.0018	.0002	.0003
#3	-.0007	.0007	.0018	.0001	.0002	.0007	.0007	.0002	.0003

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCV Acquired: 9/1/2016 12:52:06 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2156.8	5336.2	45494.	4725.1
Stddev	1.0	.8	32.	4.5
%RSD	.04772	.01430	.07086	.09557

#1	2157.1	5337.0	45460.	4720.1
#2	2155.6	5335.4	45498.	4726.4
#3	2157.6	5336.2	45524.	4728.8

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Sample Name: CCB Acquired: 9/1/2016 12:56:17 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2450.7	5603.7	47818.	4844.1
Stddev	1.7	11.2	252.	26.8
%RSD	.06745	.20051	.52771	.55315

#1	2451.0	5615.6	48008.	4814.7
#2	2448.9	5593.2	47916.	4850.3
#3	2452.2	5602.2	47532.	4867.3

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Sample Name: FA36404-2 Acquired: 9/1/2016 13:00:50 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	-0021	120.8	1165	1.058	0078	74.89	0029	0910	5649
Stddev	.0003	.2	.0020	.002	.0001	.17	.0001	.0000	.0016
%RSD	13.93	.1360	1.682	.1607	1.019	.2314	4.032	.0368	.2916
#1	-0019	120.7	1143	1.057	0077	75.03	0029	0910	5633
#2	-0021	120.7	1171	1.060	0078	74.69	0031	0909	5666
#3	-0025	121.0	1181	1.057	0078	74.93	0028	0910	5647
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	4729	425.6	7.841	36.27	7.850	0666	2.643	3225	2491
Stddev	.0010	1.0	.071	.12	.037	.0003	.009	.0008	.0028
%RSD	.2148	.2462	.9060	.3194	.4758	.3981	.3215	.2426	1.115
#1	4727	425.4	7.847	36.20	7.854	0669	2.637	3224	2459
#2	4720	424.7	7.768	36.22	7.886	0666	2.640	3218	2500
#3	4740	426.8	7.910	36.41	7.811	0664	2.653	3233	2512
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0016	-0101	6.350	0438	4037	9224	-0083	1819	1.784
Stddev	.0018	.0075	.014	.0002	.0013	.0012	.0024	.0011	.004
%RSD	110.4	74.47	.2179	.4215	.3222	.1255	28.54	.6128	.2032
#1	-0005	-0188	6.344	0440	4030	9234	-0069	1806	1.780
#2	0026	-0052	6.340	0439	4030	9226	-0069	1827	1.784
#3	0028	-0063	6.366	0436	4052	9211	-0110	1824	1.787
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	2192.7	6239.2	53367.	5559.9					
Stddev	8.4	6.1	75.	31.2					
%RSD	.38456	.09747	.14134	.56187					
#1	2199.1	6241.2	53429.	5547.2					
#2	2195.9	6244.0	53283.	5595.5					
#3	2183.1	6232.3	53388.	5537.0					

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Sample Name: FA36404-3 Acquired: 9/1/2016 13:05:18 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 4.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	-0021	341.9	2972	1.875	0154	22.77	-0051	1921	4072
Stddev	.0010	1.7	.0055	.004	.0003	.09	.0006	.0002	.0005
%RSD	46.21	.5082	1.862	.2341	2.239	.3964	12.34	.1285	.1149
#1	-0010	343.8	3022	1.879	0152	22.82	-0051	1921	4077
#2	-0029	341.6	2980	1.870	0151	22.82	-0058	1923	4070
#3	-0024	340.3	2913	1.875	0158	22.66	-0045	1919	4068
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	4801	635.1	22.08	57.34	8.437	0308	7.104	4459	2836
Stddev	.0027	3.6	.06	.34	.055	.0001	.042	.0003	.0020
%RSD	.5707	.5642	.2799	.5941	.6504	.3270	.5859	.0770	.6884
#1	4828	638.3	22.15	57.63	8.443	0309	7.144	4455	2851
#2	4801	635.9	22.03	57.42	8.488	0308	7.105	4461	2842
#3	4773	631.2	22.05	56.96	8.379	0307	7.061	4460	2814
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-0009	-0079	7.182	0271	2241	1.871	-0120	5582	1.423
Stddev	.0030	.0097	.022	.0014	.0021	.003	.0055	.0011	.003
%RSD	344.4	122.3	.3033	5.178	.9585	.1582	45.86	.2059	.2290
#1	0012	0032	7.181	0282	2265	1.870	-0180	5595	1.419
#2	0004	-0147	7.161	0276	2233	1.874	-0073	5574	1.426
#3	-0043	-0122	7.205	0255	2225	1.868	-0107	5577	1.423
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	2255.8	5963.9	50664.	5217.5					
Stddev	5.1	5.6	223.	49.8					
%RSD	.22648	.09474	.44035	.95404					
#1	2257.1	5970.4	50888.	5191.2					
#2	2250.2	5960.5	50442.	5186.5					
#3	2260.2	5960.7	50663.	5275.0					

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Sample Name: FA36404-4 Acquired: 9/1/2016 13:09:47 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 4.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0034	315.1	3518	1.240	0161	28.02	-0042	2091	3720
Stddev	.0007	.3	.0012	.003	.0002	.07	.0002	.0010	.0039
%RSD	20.06	.0967	.3387	.2286	1.517	.2575	4.216	.4821	1.051
#1	-0037	315.5	3520	1.239	0163	27.96	-0044	2089	3696
#2	-0038	315.0	3529	1.237	0161	28.00	-0042	2101	3765
#3	-0026	314.9	3505	1.243	0158	28.10	-0041	2082	3699
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	5981	672.4	22.33	62.62	8.596	0314	1.017	5202	3268
Stddev	.0027	1.0	.02	.26	.035	.0003	.030	.0003	.0032
%RSD	.4469	.1440	.0984	.4113	.4017	.8819	2.925	.0660	.9897
#1	5965	671.3	22.31	62.71	8.634	0311	1.042	5200	3304
#2	5967	672.9	22.35	62.33	8.567	0316	1.040	5199	3262
#3	6012	673.0	22.34	62.81	8.587	0316	1.023	5206	3240
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-0009	-0118	6.718	0280	2693	2.132	-0143	5482	1.640
Stddev	.0039	.0061	.012	.0006	.0003	.003	.0086	.0012	.002
%RSD	444.9	51.26	.1763	2.132	.1196	.1372	60.38	.2143	.1305
#1	-0029	-0188	6.705	0285	2694	2.136	-0117	5492	1.642
#2	-0033	-0080	6.720	0282	2695	2.132	-0240	5483	1.638
#3	0036	-0087	6.728	0274	2689	2.130	-0073	5469	1.639
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	2250.6	6072.7	51694.	5301.3					
Stddev	3.7	12.5	37.	28.4					
%RSD	.16267	.20632	.07127	.53611					
#1	2250.0	6086.0	51707.	5333.4					
#2	2254.5	6061.1	51652.	5291.1					
#3	2247.2	6071.1	51723.	5279.4					

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Sample Name: FA36404-5 Acquired: 9/1/2016 13:14:15 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 4.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0018	215.6	1730	1.998	0144	20.31	-0015	2425	2753
Stddev	.0008	.4	.0020	.003	.0003	.05	.0002	.0008	.0006
%RSD	43.74	.1655	1.140	.1451	1.989	.2221	11.75	.3401	.2030
#1	-0009	215.8	1741	2.001	0145	20.26	-0016	2416	2757
#2	-0025	215.2	1707	1.995	0147	20.30	-0013	2432	2747
#3	-0021	215.9	1741	1.997	0141	20.35	-0015	2428	2756
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	3286	414.8	18.77	38.84	16.74	0170	5510	3894	2419
Stddev	.0013	1.0	.01	.09	.07	.0005	.0290	.0024	.0047
%RSD	.3934	.2326	.0420	.2402	.4064	3.232	5.256	.6167	1.954
#1	3295	414.8	18.77	38.87	16.76	0175	5612	3868	2412
#2	3271	413.8	18.77	38.91	16.66	0170	5735	3916	2469
#3	3293	415.7	18.76	38.73	16.80	0164	5183	3897	2375
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0015	0011	3.047	0240	1551	1.477	-0066	3850	1.201
Stddev	.0012	.0073	.007	.0005	.0002	.005	.0038	.0010	.002
%RSD	81.26	691.0	.2311	1.946	.1342	.3577	57.05	.2471	.1233
#1	.0002	-0046	3.041	0245	1548	1.483	-0023	3860	1.199
#2	.0026	.0093	3.055	0236	1551	1.474	-0082	3848	1.201
#3	.0016	-0016	3.047	0238	1552	1.473	-0093	3841	1.202
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	2288.5	6346.7	54236	5556.7					
Stddev	1.5	9.7	114.	38.1					
%RSD	.06673	.15210	.21071	.68643					
#1	2286.8	6348.5	54104.	5597.8					
#2	2289.7	6336.3	54306.	5549.9					
#3	2288.9	6355.3	54297.	5522.4					

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Sample Name: FA36404-6 Acquired: 9/1/2016 13:18:44 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 4.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0029	206.3	2605	9354	0101	22.26	-0024	1766	2715
Stddev	.0011	.6	.0044	.0074	.0002	.09	.0004	.0004	.0013
%RSD	38.45	.2965	1.699	.7863	2.210	.4247	16.88	.2367	.4816

#1	-0042	206.4	2648	9413	.0104	22.27	-0028	1769	2730
#2	-0024	205.7	2559	9272	.0099	22.15	-0020	1768	2704
#3	-0022	206.9	2607	9377	.0100	22.34	-0024	1762	2712

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	4600	490.5	14.92	45.40	7.714	0272	5732	3907	2429
Stddev	.0017	2.3	.12	.13	.051	.0002	.0160	.0005	.0029
%RSD	.3617	.4722	.7868	.2810	.6545	.6163	2.785	.1343	1.192

#1	4596	491.4	14.98	45.38	7.768	.0271	5905	3913	2401
#2	4586	487.8	14.78	45.28	7.667	.0272	5700	3904	2459
#3	4619	492.2	14.99	45.53	7.708	.0274	5591	3904	2426

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0009	-0094	5.756	0234	1593	2.011	-0074	3850	1.268
Stddev	.0011	.0104	.015	.0002	.0006	.003	.0049	.0014	.005
%RSD	124.6	110.4	.2634	.8571	.3865	.1337	66.60	.3747	.3889

#1	-0004	-0.128	5.744	.0232	.1599	2.013	-0.124	3863	1.274
#2	.0015	.0022	5.773	.0234	.1587	2.008	-.0025	3853	1.267
#3	.0016	-0.178	5.750	.0236	.1594	2.012	-.0073	3834	1.264

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2285.3	6160.0	52491.	5366.5
Stddev	7.9	2.2	96.	46.9
%RSD	.34546	.03515	.18203	.87306

#1	2277.4	6159.4	52383.	5352.9
#2	2293.2	6162.3	52523.	5418.6
#3	2285.2	6158.1	52566.	5327.9

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Sample Name: FA36550-1 Acquired: 9/1/2016 13:27:49 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 10.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	0009	10.36	.0215	2.118	-0.0001	5.820	.0217	0.156	.1217
Stddev	.0015	.07	.0048	.0019	.0002	.026	.0005	.0016	.0011
%RSD	167.5	.6949	22.23	.8987	151.5	.4563	2.335	10.04	.9195

#1	.0004	10.37	.0212	.2117	.0000	5.649	.0218	.0165	.1221
#2	.0025	10.28	.0264	.2137	.0000	5.609	.0221	.0164	.1204
#3	-.0003	10.43	.0168	.2099	-.0003	5.602	.0211	.0138	.1225

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	2303	101.6	4356	4490	1.292	0100	1.249	0753	1.149
Stddev	.0041	.3	.1981	.2643	.010	.0013	.007	.0005	.0005
%RSD	1.782	3.446	45.48	58.88	.7771	13.00	.5848	.6294	.4449

#1	2305	102.0	3621	1476	1.284	0.114	1.250	.0748	.1144
#2	2262	101.4	6600	.5576	1.303	.0098	1.241	.0757	.1154
#3	2344	101.4	2847	.6417	1.287	.0088	1.256	.0753	.1149

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	0197	0058	1.359	0405	1340	3.948	-0209	0753	F 115.8
Stddev	.0038	.0047	.014	.0015	.0007	.036	.0103	.0012	.1
%RSD	19.28	81.96	1.004	3.795	.4878	.9116	49.17	1.566	.0798

#1	.0215	0.106	1.362	.0405	.1346	3.909	-.0265	.0742	115.8
#2	.0223	.0056	1.344	.0390	.1342	3.957	-.0090	.0766	115.9
#3	.0154	.0011	1.371	.0421	.1333	3.979	-.0271	.0751	115.7

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2425.4	5657.0	48264.	4889.5
Stddev	3.5	8.3	183.	16.2
%RSD	.14390	.14720	.37964	.33228

#1	2422.1	5666.4	48472.	4871.3
#2	2425.0	5650.6	48194.	4902.6
#3	2429.0	5654.0	48126.	4894.6

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Sample Name: FA36511-1 Acquired: 9/1/2016 13:23:08 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 25.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	0064	22.67	8.792	1.941	0006	2015.	-0245	F 454.6	5.462
Stddev	.0052	.24	.009	.0036	.0006	.3	.0011	1.0	.059
%RSD	81.11	1.056	.1000	1.873	94.95	.1442	4.433	.2208	1.082

#1	.0103	22.54	8.788	.1927	.0007	2015.	-.0234	453.4	5.393
#2	.0005	22.53	8.802	.1914	.0000	2018.	-.0244	455.3	5.493
#3	.0084	22.95	8.786	.1983	.0011	2012.	-.0256	455.1	5.498

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	-0751	456.1	1.686	3.772	67.47	8676	1.347	81.85	1.605
Stddev	.0033	.3	.143	.257	.12	.0032	.128	.04	.0138
%RSD	4.358	.0577	8.485	6.813	.1790	.3740	9.502	.0495	8.575

#1	-.0721	455.8	1.599	3.581	67.47	8646	1.457	81.85	.1559
#2	-.0746	456.2	1.607	4.064	67.35	8710	1.206	81.89	.1497
#3	-.0786	456.3	1.851	3.670	67.59	8671	1.377	81.81	.1760

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-0806	0075	5.381	-0.146	26.61	26.83	1.639	1.441	1.102
Stddev	.0116	.0286	.014	.0063	.08	.11	.040	.0013	.0010
%RSD	14.34	49.70	.2574	43.27	.2937	.4206	2.466	.8884	.8899

#1	-.0688	.0707	5.366	-.0119	26.56	26.75	1.594	.1427	.1111
#2	-.0811	.0772	5.394	-.0101	26.57	26.78	1.648	.1449	.1103
#3	-.0919	.0247	5.383	-.0218	26.70	26.96	1.673	.1448	.1092

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2370.0	8461.6	71116.	7530.1
Stddev	7.5	7.1	360.	20.5
%RSD	.31704	.08392	.50593	.27181

#1	2376.0	8466.2	71530.	7553.7
#2	2372.5	8465.2	70875.	7516.9
#3	2361.6	8453.5	70944.	7519.7

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Sample Name: MP30787-MB1 Acquired: 9/1/2016 13:32:14 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0001	0068	-0027	0000	-0002	0798	-0001	0000	0012
Stddev	.0002	.0002	.0006	.000	.0001	.0010	.0000	.000	.0003
%RSD	159.2	3.558	20.98	525.6	70.35	1.237	29.28	222.6	27.17

#1	-0001	0070	-0028	-0002	.0000	.0803	-0001	.0000	.0014
#2	.0000	0069	-0021	.0002	-0002	.0804	-0002	.0000	.0013
#3	-0003	0065	-0033	-0002	-0002	.0787	-0001	-0001	.0008

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0007	0179	0339	-0151	0002	0001	0025	0001	0006
Stddev	.0001	.0052	.0059	.0153	.0000	.0001	.0008	.0001	.0006
%RSD	14.00	28.87	17.27	101.3	2.414	191.9	33.16	174.7	96.43

#1	.0005	0.167	.0393	-.0288	.0003	.0002	.0034	.0001	.0011
#2	.0007	.0235	.0346	.0014	.0002	.0000	.0021	.0000	.0009
#3	.0007	.0134	.0277	-.0179	.0002	.0000	.0019	.0000	-.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0010	0012	0068	0210	0000	0007	-0019	0000	0024
Stddev	.0006	.0000	.0004	.0003	.0000	.0001	.0005	.000	.0002
%RSD	59.44	2.809	5.383	1.476	49.89	14.15	25.44	140.8	8.237

#1	.0006	.0011	.0072	.0213	.0000	.0008	-.0015	-.0001	.0026
#2	.0017	.0012	.0068	.0208	.0000	.0007	-.0024	.0000	.0023
#3	.0007	.0012	.0064	.0207	.0000	.0006	-.0018	.0000	.0022

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: MP30787-MB1 Acquired: 9/1/2016 13:32:14 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2438.9	5529.3	48039.	4852.6
Stddev	4.7	10.8	142.	38.2
%RSD	.19099	.19550	.29533	.78657

#1	2433.6	5518.0	47925.	4813.3
#2	2442.3	5530.5	48198.	4855.0
#3	2440.9	5539.5	47993.	4889.6

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Sample Name: MP30787-B1 Acquired: 9/1/2016 13:36:47 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0475	27.26	1.982	2.082	.0528	26.11	.0510	.5152	.2105
Stddev	.0004	.06	.001	.008	.0000	.07	.0000	.0007	.0008
%RSD	.8825	.2242	.0565	.3812	.0322	.2776	.0980	.1271	.3857

#1	.0470	27.33	1.983	2.091	.0528	26.19	.0509	.5144	.2110
#2	.0478	27.25	1.982	2.079	.0528	26.06	.0510	.5156	.2096
#3	.0476	27.21	1.981	2.076	.0528	26.07	.0510	.5155	.2110

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2685	26.93	25.49	25.27	.5325	.5262	25.55	.5189	.4917
Stddev	.0006	.17	.13	.06	.0006	.0013	.08	.0007	.0009
%RSD	.2084	.6193	.5218	.2556	.1205	.2510	.3149	.1278	.1832

#1	.2679	27.10	25.63	25.35	.5330	.5247	25.64	.5183	.4918
#2	.2690	26.90	25.48	25.23	.5318	.5268	25.51	.5188	.4907
#3	.2686	26.77	25.36	25.24	.5326	.5271	25.50	.5196	.4924

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5038	2.000	.0210	.5374	.5094	.5355	1.980	.5024	.5138
Stddev	.0008	.003	.0017	.0009	.0020	.0011	.006	.0014	.0013
%RSD	.1594	.1659	7.983	.1672	.3850	.2096	.2835	.2872	.2579

#1	.5033	1.997	.0229	.5364	.5116	.5367	1.977	.5027	.5146
#2	.5047	2.004	.0198	.5376	.5083	.5348	1.977	.5009	.5123
#3	.5034	1.999	.0202	.5382	.5082	.5349	1.987	.5037	.5146

Check ? Chk Pass Chk Pass None Chk Pass None None Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: MP30787-B1 Acquired: 9/1/2016 13:36:47 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2252.3	5390.3	46076.	4726.9
Stddev	5.5	.7	17.	7.8
%RSD	.24525	.01351	.03658	.16564

#1	2247.0	5391.0	46086.	4731.5
#2	2258.0	5389.6	46085.	4717.9
#3	2251.7	5390.4	46056.	4731.4

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Sample Name: FA36516-5R Acquired: 9/1/2016 13:41:01 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0154	86.23	.0308	.3809	.0034	4.424	.0024	.0120	.1108
Stddev	.0002	.37	.0013	.0002	.0001	.018	.0001	.0000	.0008
%RSD	1.078	.4241	4.102	.0417	2.037	.3959	2.520	.2811	.6931

#1	.0154	86.34	.0302	.3610	.0033	4.426	.0023	.0120	.1111
#2	.0153	86.54	.0299	.3608	.0034	4.441	.0024	.0120	.1100
#3	.0156	85.83	.0322	.3608	.0034	4.406	.0025	.0120	.1114

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.3711	55.39	1.385	3.546	1.018	.0051	.0997	.0396	.3356
Stddev	.0022	.38	.013	.049	.001	.0001	.0050	.0004	.0017
%RSD	.6019	.6896	.9337	1.385	.1336	1.047	4.992	1.130	.4946

#1	.3693	55.51	1.391	3.548	1.016	.0051	.1022	.0394	.3344
#2	.3705	55.70	1.394	3.594	1.018	.0050	.0940	.0393	.3349
#3	.3736	54.96	1.370	3.496	1.019	.0051	.1029	.0401	.3375

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0056	.0028	.9538	.0695	.0463	.4219	-.0046	.1258	.5729
Stddev	.0002	.0029	.0036	.0006	.0002	.0008	.0021	.0003	.0008
%RSD	3.358	104.9	.3783	.8171	.4068	.1911	46.44	.1993	.1400

#1	.0054	-.0003	.9508	.0692	.0465	.4228	-.0062	.1259	.5721
#2	.0056	.0032	.9529	.0691	.0461	.4212	-.0022	.1260	.5728
#3	.0058	.0055	.9578	.0701	.0462	.4218	-.0055	.1255	.5737

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2316.1	6322.0	53567.	5454.0
Stddev	1.3	11.3	167.	70.0
%RSD	.05633	.17807	.31145	1.2841

#1	2315.5	6327.3	53379.	5455.5
#2	2317.6	6329.6	53696.	5383.3
#3	2315.1	6309.0	53626.	5523.3

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Sample Name: CCV Acquired: 9/1/2016 13:45:20 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2566	39.96	2.006	2.009	2.029	40.48	2.032	2.031	2.054
Stddev	.0006	.07	.004	.009	.002	.14	.003	.001	.001
%RSD	.2397	.1678	.1764	.4425	.0872	.3390	.1379	.0251	.0395
#1	2573	39.94	2.009	1.998	2.027	40.58	2.031	2.031	2.054
#2	2563	40.04	2.002	2.014	2.030	40.54	2.030	2.030	2.055
#3	2563	39.91	2.007	2.013	2.029	40.33	2.035	2.031	2.055

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.034	39.21	40.19	40.28	2.083	2.014	40.14	2.027	2.001
Stddev	.009	.19	.06	.24	.005	.000	.10	.002	.007
%RSD	.4693	.4857	.1495	.5914	.2254	.0219	.2581	.0990	.3484
#1	2.045	39.06	40.17	40.53	2.080	2.014	40.02	2.025	1.993
#2	2.028	39.42	40.25	40.26	2.088	2.013	40.20	2.029	2.007
#3	2.029	39.13	40.14	40.05	2.080	2.014	40.20	2.025	2.003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.002	2.013	2.052	2.032	2.012	2.059	2.016	2.062	2.044
Stddev	.006	.004	.006	.003	.006	.005	.004	.001	.008
%RSD	.3034	.2074	.3073	.1358	.3216	.2320	.1924	.0571	.4079
#1	2.007	2.014	2.058	2.033	2.006	2.064	2.017	2.063	2.039
#2	2.004	2.008	2.053	2.029	2.019	2.055	2.019	2.061	2.039
#3	1.995	2.017	2.045	2.034	2.012	2.057	2.012	2.061	2.053

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: CCV Acquired: 9/1/2016 13:45:20 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2162.7	5337.1	45240.	4661.8
Stddev	4.0	3.7	52.	33.9
%RSD	.18679	.06890	.11420	.72686
#1	2167.1	5333.0	45297.	4625.4
#2	2161.9	5340.1	45226.	4667.7
#3	2159.1	5338.3	45197.	4692.3

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Sample Name: CCB Acquired: 9/1/2016 13:49:31 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0045	.0002	.0005	.0004	.0082	.0002	.0000	.0005
Stddev	.0004	.0012	.0009	.0002	.0000	.0016	.0001	.0000	.0000
%RSD	2538.	25.97	405.7	42.44	9.362	19.43	43.58	60.74	6.987
#1	-.0003	.0036	.0000	.0007	.0003	.0096	.0003	.0001	.0005
#2	.0004	.0058	-.0005	.0003	.0004	.0086	.0002	.0001	.0005
#3	-.0001	.0041	.0012	.0004	.0004	.0065	.0001	.0000	.0004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0174	.0365	.0118	.0003	F .0011	.0059	.0002	.0002
Stddev	.0001	.0016	.0077	.0369	.0001	.0003	.0029	.0002	.0011
%RSD	27.09	9.368	21.13	312.0	24.78	28.43	48.49	101.2	625.5
#1	.0002	.0193	.0306	-.0382	.0004	.0015	.0036	.0003	.0009
#2	.0004	.0165	.0453	.0303	.0002	.0011	.0050	.0000	.0007
#3	.0003	.0165	.0338	-.0276	.0002	.0008	.0091	.0002	-.0011

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0006	.0015	.0005	.0003	.0007	-.0016	.0004	.0002
Stddev	.0007	.0006	.0003	.0003	.0000	.0000	.0007	.0000	.0001
%RSD	165.3	100.6	18.95	55.96	8.561	2.041	45.58	9.932	29.27
#1	-.0004	.0013	.0018	.0008	.0004	.0007	-.0009	.0003	.0003
#2	.0007	.0001	.0013	.0005	.0003	.0007	-.0023	.0004	.0002
#3	.0009	.0004	.0013	.0002	.0003	.0007	-.0015	.0004	.0001

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCB Acquired: 9/1/2016 13:49:31 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2441.2	5585.2	47647.	4798.7
Stddev	4.6	12.0	181.	21.3
%RSD	.18804	.21461	.37998	.44359
#1	2436.1	5587.9	47801.	4781.8
#2	2442.3	5595.6	47447.	4791.8
#3	2445.0	5572.1	47693.	4822.7

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Sample Name: MP30787-D1 Acquired: 9/1/2016 13:54:05 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0219	101.9	.1441	.7286	.0070	6.275	.0076	.0178	.1641
Stddev	.0003	.3	.0013	.0013	.0001	.029	.0001	.0000	.0004
%RSD	1.267	.3315	.9077	.1851	1.907	.4606	1.212	.0740	.2440

#1	.0216	102.1	.1439	.7296	.0071	6.296	.0076	.0178	.1638
#2	.0220	102.0	.1429	.7292	.0072	6.242	.0075	.0178	.1641
#3	.0221	101.5	.1455	.7271	.0069	6.288	.0077	.0178	.1646

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.6650	84.26	1.650	2.127	.5981	.0103	.2173	.0649	.7768
Stddev	.0018	.21	.013	.021	.0026	.0002	.0137	.0003	.0026
%RSD	.2758	.2547	.7916	.9849	.4268	1.717	6.296	.5161	.3410

#1	.6666	84.47	1.665	2.146	.6007	.0104	.2124	.0645	.7738
#2	.6653	84.28	1.641	2.105	.5956	.0104	.2328	.0650	.7788
#3	.6630	84.04	1.645	2.131	.5980	.0101	.2068	.0651	.7777

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0918	.0096	1.133	.1318	.0960	.5477	-.0082	.1698	1.093
Stddev	.0003	.0021	.003	.0006	.0003	.0008	.0004	.0007	.002
%RSD	.3574	21.92	.2275	.4676	.3423	.1487	4.714	.3905	.2137

#1	.0915	.0116	1.132	.1313	.0962	.5485	-.0078	.1706	1.090
#2	.0916	.0098	1.133	.1325	.0961	.5476	-.0085	.1694	1.095
#3	.0921	.0074	1.136	.1316	.0956	.5469	-.0084	.1694	1.093

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2286.0	6440.8	54865.	5604.4
Stddev	4.3	18.1	49.	26.5
%RSD	.18972	.28032	.08913	.47212

#1	2283.8	6435.0	54827.	5578.3
#2	2291.0	6461.0	54849.	5603.7
#3	2283.3	6426.3	54921.	5631.2

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Sample Name: MP30787-SD1 Acquired: 9/1/2016 13:58:25 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_2243)	(Y_3600)
Avg	.0180	101.6	.0379	.4242	.0035	5.251	.0025	.0139	.1310
Stddev	.0009	.6	.0026	.0024	.0001	.023	.0002	.0004	.0002
%RSD	4.730	.5954	6.755	.5556	2.604	.4377	9.030	2.793	.1522

#1	.0187	101.3	.0381	.4240	.0036	5.229	.0023	.0139	.1312
#2	.0183	102.3	.0403	.4267	.0034	5.275	.0027	.0143	.1308
#3	.0171	101.2	.0352	.4220	.0035	5.250	.0026	.0135	.1311

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.4371	65.83	1.744	4.190	1.216	.0049	.1643	.0480	.3572
Stddev	.0017	.39	.051	.063	.005	.0007	.0126	.0009	.0069
%RSD	.3839	.5935	2.922	1.492	.3831	13.52	7.666	1.887	1.936

#1	.4369	65.52	1.747	4.159	1.217	.0048	.1739	.0490	.3492
#2	.4389	66.27	1.691	4.149	1.220	.0043	.1689	.0475	.3618
#3	.4355	65.69	1.793	4.262	1.211	.0056	.1500	.0474	.3605

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0043	-.0020	1.157	.0835	.0539	.4968	-.0110	.1490	.7419
Stddev	.0059	.0073	.008	.0010	.0008	.0017	.0076	.0012	.0026
%RSD	135.2	360.5	.7039	1.200	1.578	.3415	69.21	.7886	.3486

#1	-.0022	-.0023	1.148	.0844	.0532	.4967	-.0130	.1504	.7427
#2	.0093	-.0092	1.157	.0824	.0548	.4985	-.0174	.1485	.7440
#3	.0059	.0055	1.165	.0836	.0536	.4951	-.0026	.1482	.7390

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2409.1	5755.9	48987.	4997.0
Stddev	3.1	10.4	65.	2.4
%RSD	.13016	.18053	.13272	.04732

#1	2406.5	5764.1	49000.	4997.3
#2	2408.3	5759.4	48917.	4999.2
#3	2412.6	5744.2	49045.	4994.5

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Sample Name: MP30787-PS1 Acquired: 9/1/2016 14:02:50 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0570	86.41	.1224	.5930	.0509	9.045	.0482	.0583	.1558
Stddev	.0005	.04	.0004	.0017	.0001	.030	.0000	.0001	.0009
%RSD	.8123	.0487	.3304	.2934	.2498	.3321	.0662	.2048	.5532

#1	.0566	86.40	.1226	.5925	.0510	9.074	.0483	.0582	.1563
#2	.0570	86.38	.1226	.5916	.0507	9.014	.0482	.0584	.1548
#3	.0575	86.46	.1219	.5950	.0508	9.046	.0482	.0584	.1562

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.4613	56.55	10.31	8.001	1.040	.0985	9.236	.1303	.3808
Stddev	.0012	.04	.01	.057	.001	.0004	.010	.0004	.0020
%RSD	.2630	.0670	.1308	.7056	.0689	.4427	.1094	.3177	.5267

#1	.4605	56.53	10.32	8.057	1.040	.0988	9.227	.1299	.3799
#2	.4608	56.53	10.29	7.944	1.039	.0980	9.234	.1307	.3831
#3	.4627	56.59	10.31	8.003	1.040	.0988	9.247	.1304	.3794

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.1009	.0891	.9499	.1115	.0905	.5071	.0961	.1700	.7940
Stddev	.0006	.0005	.0027	.0003	.0002	.0004	.0006	.0007	.0032
%RSD	.5610	.5658	.2891	.2256	.2177	.0777	.6582	.4298	.3983

#1	.1014	.0896	.9516	.1114	.0904	.5075	.0956	.1709	.7934
#2	.1009	.0886	.9468	.1118	.0904	.5071	.0968	.1695	.7974
#3	.1003	.0892	.9514	.1113	.0907	.5067	.0959	.1697	.7912

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2263.5	6263.5	53029.	5490.4
Stddev	8.8	29.8	31.	28.7
%RSD	.38972	.47510	.05832	.52326

#1	2259.4	6243.7	53064.	5463.9
#2	2273.7	6297.7	53008.	5486.5
#3	2257.6	6249.1	53015.	5520.9

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Sample Name: MP30787-S1 Acquired: 9/1/2016 14:07:07 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_2243)	(Y_3600)
Avg	.0584	129.8	1.686	2.181	.0499	26.43	.0457	.4513	.2972
Stddev	.0001	.3	.001	.005	.0002	.12	.0001	.0001	.0018
%RSD	.1687	.2420	.0446	.2339	.3495	.4379	.1681	.0273	.5954

#1	.0583	129.6	1.686	2.186	.0497	26.36	.0458	.4515	.2990
#2	.0584	129.6	1.685	2.176	.0500	26.37	.0457	.4513	.2972
#3	.0585	130.1	1.686	2.180	.0499	26.56	.0457	.4512	.2954

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.5291	75.27	23.84	24.35	.9127	.4149	22.67	.4827	.7815
Stddev	.0007	.24	.08	.14	.0025	.0004	.03	.0010	.0040
%RSD	.1361	.3240	.3296	.5869	.2781	.1035	.1179	.2168	.5023

#1	.5296	75.17	23.94	24.22	.9153	.4144	22.66	.4839	.7956
#2	.5283	75.09	23.86	24.32	.9127	.4151	22.65	.4822	.7911
#3	.5294	75.54	24.02	24.50	.9102	.4152	22.70	.4820	.7877

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.1373	1.692	1.089	.4657	.4946	.6058	1.947	.5699	1.023
Stddev	.0015	.002	.003	.0012	.0015	.0013	.001	.0018	.003
%RSD	1.069	.0971	.3134	.2599	.2987	.2168	.0273	.3078	.2480

#1	.1363	1.694	1.087	.4667	.4935	.6073	1.948	.5718	1.025
#2	.1								

Sample Name: MP30787-S2 Acquired: 9/1/2016 14:11:19 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0649	208.7	1.588	2.254	.0493	28.20	.0441	4.300	3826
Stddev	.0005	.5	.002	.003	.0002	.11	.0001	.0003	.0007
%RSD	.7145	.2499	.1541	.1486	.3390	.4070	.3011	.0626	.1816

#1	.0648	208.5	1.586	2.250	.0494	28.15	.0441	4.298	3828
#2	.0646	209.3	1.591	2.256	.0495	28.33	.0439	4.300	3818
#3	.0655	208.3	1.589	2.256	.0492	28.12	.0442	4.303	3831

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.7134	128.1	23.77	24.41	1.111	.3776	22.05	4.730	9602
Stddev	.0019	.5	.06	.04	.003	.0007	.05	.0005	.0010
%RSD	.2659	.4098	.2500	.1637	.2765	.1944	.2165	.1087	.1062

#1	.7154	128.0	23.70	24.43	1.108	.3768	22.00	4.724	9601
#2	.7116	128.6	23.81	24.43	1.113	.3778	22.05	4.733	9613
#3	.7131	127.6	23.79	24.36	1.113	.3782	22.09	4.734	9592

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)	(Y_2243)
Avg	.1228	1.575	1.222	.5233	.4922	.5551	1.922	.6955	1.272
Stddev	.0012	.004	.002	.0014	.0017	.0020	.003	.0015	.004
%RSD	.9799	.2198	.1546	.2723	.3383	.3547	.1495	.2090	.2917

#1	.1230	1.578	1.223	.5237	.4903	.5552	1.925	.6943	1.272
#2	.1239	1.575	1.220	.5217	.4927	.5530	1.923	.6952	1.268
#3	.1215	1.571	1.223	.5244	.4935	.5570	1.919	.6971	1.276

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2134.2	6369.1	53222.	5544.6
Stddev	1.9	10.0	217.	32.5
%RSD	.08920	.15745	.40782	.58652

#1	2132.4	6367.8	53232.	5545.0
#2	2136.2	6379.7	53435.	5511.8
#3	2134.1	6359.8	53001.	5576.8

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Sample Name: CRIA Acquired: 9/1/2016 14:19:49 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0087	2309	.0097	.2128	.0052	1.079	.0054	.0544	.0116
Stddev	.0003	.0022	.0010	.0008	.0001	.004	.0000	.0000	.0004
%RSD	3.295	.9412	10.39	.3794	1.663	.3897	.3809	.0636	3.617

#1	.0086	.2320	.0109	.2137	.0052	1.084	.0054	.0543	.0111
#2	.0084	.2324	.0095	.2124	.0051	1.078	.0054	.0544	.0118
#3	.0090	.2284	.0089	.2122	.0052	1.075	.0054	.0544	.0119

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0278	3.759	10.38	5.292	.0170	.0523	10.42	.0437	.0051
Stddev	.0002	.0049	.01	.013	.0001	.0002	.03	.0002	.0004
%RSD	.5557	1.306	.0961	.2507	.7685	.4186	.2889	.4310	7.468

#1	.0279	.3807	10.39	5.277	.0171	.0522	10.44	.0436	.0053
#2	.0278	.3760	10.37	5.302	.0170	.0522	10.38	.0440	.0047
#3	.0276	.3709	10.38	5.298	.0168	.0526	10.42	.0436	.0053

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)	(Y_2243)
Avg	.0054	.0117	.0065	.0539	.0104	.0111	.0081	.0521	.0229
Stddev	.0014	.0013	.0002	.0005	.0001	.0002	.0006	.0003	.0002
%RSD	25.94	11.28	2.815	.9977	1.214	1.394	6.946	.5138	1.032

#1	.0070	.0111	.0063	.0545	.0105	.0111	.0087	.0524	.0232
#2	.0044	.0132	.0066	.0536	.0103	.0113	.0078	.0521	.0229
#3	.0048	.0107	.0067	.0535	.0104	.0110	.0077	.0519	.0228

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2400.4	5569.3	47130.	4777.2
Stddev	3.3	13.8	211.	8.6
%RSD	.13635	.24794	.44725	.17952

#1	2403.3	5579.2	47063.	4770.6
#2	2401.1	5575.1	46961.	4774.1
#3	2396.9	5553.5	47366.	4786.9

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Sample Name: FA36396-2R Acquired: 9/1/2016 14:15:32 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0081	88.86	.5741	1.760	.0134	5.243	.0106	.0659	.2258
Stddev	.0001	.00	.0007	.003	.0001	.006	.0001	.0002	.0013
%RSD	1.793	.0032	.1210	.1730	.6566	.1113	.9635	.2672	.5622

#1	.0081	88.86	.5733	1.760	.0135	5.246	.0105	.0661	.2254
#2	.0082	88.86	.5746	1.762	.0133	5.236	.0106	.0657	.2272
#3	.0079	88.86	.5745	1.756	.0133	5.247	.0107	.0658	.2248

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.9208	142.0	3.148	1.631	.3359	.0644	.8036	.1926	2.649
Stddev	.0044	.5	.018	.017	.0017	.0001	.0128	.0005	.006
%RSD	.4765	.3200	.5699	1.048	.5056	.1929	1.590	.2773	.2190

#1	.9242	142.1	3.128	1.612	.3342	.0645	.8033	.1924	2.643
#2	.9158	141.6	3.154	1.644	.3376	.0644	.7909	.1922	2.654
#3	.9224	142.5	3.163	1.638	.3358	.0642	.8164	.1932	2.650

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0272	1.189	1.327	.6673	.4856	1.276	.0122	.3119	4.053
Stddev	.0015	.0011	.004	.0006	.0008	.002	.0009	.0008	.001
%RSD	5.578	.9140	.2991	.0855	.1550	.1462	7.683	.2671	.0292

#1	.0287	.1177	1.327	.6679	.4862	1.276	.0133	.3110	4.055
#2	.0257	.1197	1.323	.6667	.4858	1.278	.0118	.3120	4.052
#3	.0273	.1192	1.331	.6672	.4848	1.274	.0115	.3127	4.053

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2258.9	6556.3	55735.	5672.5
Stddev	3.2	16.8	249.	17.2
%RSD	.14003	.25588	.44608	.30246

#1	2255.5	6539.9	55834.	5666.4
#2	2259.4	6573.5	55452.	5691.9
#3	2261.7	6555.4	55919.	5659.2

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Sample Name: ICESA Acquired: 9/1/2016 14:24:15 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0002	495.8	.0001	.0005	.0002	473.9	.0005	.0007	.0003
Stddev	.0002	7.8	.0006	.0002	.0000	3.6	.0000	.0002	.0002
%RSD	89.13	1.573	458.9	45.50	11.42	.7541	6.713	25.58	61.32

#1	.0001	498.2	.0004	.0004	.0001	478.0	.0005	.0006	.0001
#2	.0004	487.1	.0006	.0003	.0002	472.3	.0006	.0009	.0003
#3	.0001	502.1	.0006	.0007	.0002	471.3	.0005	.0006	.0005

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0030	182.8	.0895	521.0	.0002	.0002	.1599	.0001	.0005
Stddev	.0001	.4	.0106	.4	.0000	.0003	.0027	.0002	.0013
%RSD	2.026	.2041	11.82	.0735	14.24	193.0	1.714	332.8	279.6

#1	.0029	182.5	.0890	521.3	.0002	.0005	.1571	.0001	.0010
#2	.0030	183.2	.1004	521.1	.0002	.0002	.1598	.0003	.0016
#3	.0030	182.7	.0793	520.6	.0003	.0002	.1626	.0002	.0008

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0035	.0039	.0455	.0038	.0006	.0003	.0056	.0004	.0012
Stddev	.0021	.0026	.0005	.0008	.0004	.0002	.0027	.0002	.0000
%RSD	59.72	66.34	1.036	21.44	71.39	66.10	48.69	46.23	1.813

#1	.0012	.0046	.0452	.0041	.0002	.0005	.0080	.0005	.0013
#2	.0054	.0059	.0461	.0029	.0010	.0001	.0060	.0002	.0012
#3	.0039	.0010	.0453	.0045	.0006	.0002	.0027	.0006	.0012

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	1843.6	4908.2	40704.	4414.1
Stddev	2.3	5.0	106.	15.6
%RSD	.12341	.10086	.26077	.35

Sample Name: ICSAB Acquired: 9/1/2016 14:28:54 Type: Unk
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	
Avg	F 1.012	F 507.9	1.113	.5199	.5114	493.6	.9514	.4815	.5134
Stddev	.004	1.7	.002	.0002	.0020	.9	.0012	.0007	.0021
%RSD	.3708	.3435	.1902	.0305	.3915	.1763	.1285	.1441	.4032
#1	1.013	509.4	1.112	.5201	.5121	494.6	.9517	.4823	.5112
#2	1.014	508.2	1.111	.5199	.5129	493.0	.9525	.4810	.5136
#3	1.007	506.0	1.115	.5198	.5091	493.3	.9501	.4812	.5154
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.5489	183.4	.0607	F 522.3	.5100	.9963	.1811	.9529	1.004
Stddev	.0026	.3	.0092	1.5	.0023	.0008	.0050	.0006	.005
%RSD	.4656	.1591	15.11	.2885	.4497	.0822	2.780	.0682	.5210
#1	.5517	183.8	.0673	523.5	.5076	.9967	.1869	.9536	1.001
#2	.5468	183.3	.0645	522.8	.5121	.9953	.1785	.9526	1.010
#3	.5481	183.2	.0502	520.6	.5104	.9967	.1779	.9524	1.002
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	1.056	1.050	.0553	.9769	1.044	1.054	1.017	.4812	.9599
Stddev	.002	.005	.0018	.0009	.002	.002	.003	.0015	.0010
%RSD	.2046	.4959	3.281	.0918	.1770	.1799	.2966	.3113	.1039
#1	1.053	1.053	.0564	.9777	1.042	1.053	1.021	.4795	.9591
#2	1.056	1.044	.0562	.9771	1.046	1.056	1.015	.4820	.9595
#3	1.058	1.053	.0532	.9759	1.044	1.053	1.016	.4822	.9610
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	1813.1	4881.1	40504.	4346.4					
Stddev	5.2	14.0	128.	17.5					
%RSD	.28690	.28592	.31721	.40175					
#1	1818.6	4881.6	40602.	4327.3					
#2	1812.2	4894.7	40358.	4350.2					
#3	1808.4	4866.8	40551.	4361.6					

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Sample Name: CCV Acquired: 9/1/2016 14:33:23 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2568	39.70	1.997	1.999	2.025	40.65	2.029	2.033	2.054
Stddev	.0004	.22	.006	.007	.010	.19	.001	.001	.009
%RSD	.1634	.5541	.3266	.3333	.4978	.4594	.0318	.0643	.4639
#1	.2564	39.80	1.999	2.000	2.030	40.73	2.030	2.032	2.043
#2	.2566	39.45	1.990	1.992	2.013	40.44	2.029	2.033	2.055
#3	.2572	39.85	2.003	2.005	2.031	40.78	2.029	2.034	2.062

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.033	39.00	40.11	40.33	2.098	2.012	39.95	2.021	1.997
Stddev	.004	.23	.33	.29	.004	.005	.28	.002	.005
%RSD	.1792	.5824	.8174	.7143	.2139	.2338	.7062	.0748	.2406
#1	2.035	39.07	40.28	40.52	2.093	2.009	40.11	2.019	2.001
#2	2.029	38.75	39.73	39.99	2.100	2.009	39.63	2.022	1.998
#3	2.034	39.18	40.32	40.46	2.101	2.017	40.12	2.021	1.991

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.986	2.005	2.038	2.037	2.002	2.047	2.014	2.071	2.056
Stddev	.002	.002	.001	.004	.012	.005	.003	.005	.003
%RSD	.1128	.0848	.0623	.1885	.6093	.2601	.1608	.2557	.1338
#1	1.988	2.006	2.039	2.039	2.008	2.042	2.012	2.065	2.056
#2	1.984	2.005	2.037	2.039	1.988	2.046	2.012	2.074	2.058
#3	1.987	2.003	2.039	2.032	2.011	2.052	2.017	2.075	2.053

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: CCV Acquired: 9/1/2016 14:33:23 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Units	Cts/S	Cts/S	Cts/S	Cts/S					
Avg	2147.6	5322.2	45187.	4623.0					
Stddev	5.9	8.2	151.	33.5					
%RSD	.27619	.15499	.33478	.72376					
#1	2154.3	5330.9	45265.	4593.6					
#2	2145.5	5321.0	45284.	4659.4					
#3	2143.0	5314.6	45013.	4616.1					

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Sample Name: CCB Acquired: 9/1/2016 14:37:34 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: :
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0158	-.0006	.0006	.0003	.0187	.0001	.0000	.0002
Stddev	.000	.0104	.0005	.0003	.0001	.0053	.0000	.000	.0001
%RSD	410.3	65.57	87.29	52.56	19.07	28.54	25.45	939.7	48.30
#1	.0000	.0276	-.0011	.0007	.0004	.0225	.0001	.0001	.0003
#2	-.0001	.0080	-.0002	.0002	.0003	.0209	.0002	-.0001	.0003
#3	.0001	.0118	-.0003	.0008	.0003	.0126	.0001	-.0001	.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0239	.0483	-.0045	.0002	F .0013	.0171	.0002	.0003
Stddev	.0001	.0036	.0156	.0045	.0001	.0002	.0076	.0003	.0004
%RSD	23.58	15.06	32.33	99.01	29.17	18.68	44.18	160.8	108.9
#1	.0004	.0271	.0657	.0004	.0003	.0015	.0084	.0004	-.0001
#2	.0003	.0245	.0355	-.0058	.0002	.0013	.0220	.0004	.0005
#3	.0002	.0200	.0438	-.0083	.0001	.0011	.0209	-.0002	.0006

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0010	.0012	.0004	.0003	.0005	-.0016	.0002	.0002
Stddev	.001	.0007	.0001	.0005	.0001	.0001	.0013	.0001	.0000
%RSD	6221.	72.95	7.845	112.9	25.27	10.04	78.33	61.31	26.44
#1	.0003	.0012	.0012	.0009	.0005	.0005	-.0010	.0001	.0001
#2	-.0013	.0002	.0013	.0004	.0003	.0005	-.0030	.0003	.0002
#3	.0009	.0017	.0011	.0000	.0003	.0006	-.0008	.0001	.0002

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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◀ Zoom In
Zoom Out

Sample Name: CCB Acquired: 9/1/2016 14:37:34 Type: QC
Method: 60102007_042011(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE01: : :
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2386.1	5465.7	46430.	4647.4
Stddev	7.6	8.7	87.	13.0
%RSD	.31882	.15858	.18631	.27956
#1	2393.4	5474.7	46372.	4647.6
#2	2386.8	5465.1	46387.	4660.3
#3	2378.2	5457.4	46529.	4634.3

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	<input checked="" type="checkbox"/>	2	V	-0.005817	0.000000	No
			Fe	0.000009	0.000000	No
Al 396.152 { 85}	<input checked="" type="checkbox"/>	1	Mo	0.040330	0.000000	No
As 189.042 {478}	<input checked="" type="checkbox"/>	4	Fe	-0.000075	0.000000	No
			Cr	-0.000653	0.000000	No
			Mo	0.000444	0.000000	No
			Al	0.000001	0.000000	No
Ba 455.403 { 74}	<input checked="" type="checkbox"/>	1	Fe	0.000016	0.000000	No
Be 313.042 {108}	<input checked="" type="checkbox"/>	2	V	0.000625	0.000000	No
			Ti	-0.000289	0.000000	No
Ca 317.933 {106}	<input checked="" type="checkbox"/>	None				
Cd 226.502 {449}	<input checked="" type="checkbox"/>	4	Fe	0.000083	0.000000	No
			Ca	-0.000000	0.000000	No
			Al	-0.000002	0.000000	No
			Ti	0.000103	0.000000	No
Co 228.616 {447}	<input checked="" type="checkbox"/>	3	Mo	-0.001220	0.000000	No
			Ti	0.002210	0.000000	No
			Fe	0.000005	0.000000	No
Cr 267.716 {126}	<input checked="" type="checkbox"/>	4	Al	0.000005	0.000000	No
			Fe	-0.000001	0.000000	No
			Ca	0.000002	0.000000	No
			Cd	-0.000120	0.000000	No
Cu 324.754 {104}	<input checked="" type="checkbox"/>	10	Mo	0.000189	0.000000	No
			Sn	-0.000012	0.000000	No
			V	-0.000158	0.000000	No
			Al	0.000003	0.000000	No
			Mg	0.000003	0.000000	No
			Co	-0.000547	0.000000	No
			Cd	0.000190	0.000000	No
			Fe	-0.000123	0.000000	No
			Ca	0.000001	0.000000	No
			Ti	-0.000268	0.000000	No
Fe 259.940 {130}	<input checked="" type="checkbox"/>	None				
In 230.606 {446}*	<input checked="" type="checkbox"/>	None				
K 766.490 { 44}	<input checked="" type="checkbox"/>	None				
Mg 279.079 {121}	<input checked="" type="checkbox"/>	None				
Mn 257.610 {131}	<input checked="" type="checkbox"/>	2	Fe	-0.000001	0.000000	No
			Mg	0.000000	0.000000	No
Mo 202.030 {467}	<input checked="" type="checkbox"/>	1	Fe	-0.000003	0.000000	No
Na 589.592 { 57}	<input checked="" type="checkbox"/>	None				
Ni 231.604 {445}	<input checked="" type="checkbox"/>	7	Fe	-0.000034	0.000000	No
			Co	0.000112	0.000000	No
			Mo	0.000980	0.000000	No
			Sb	-0.000120	0.000000	No
			Al	0.000003	0.000000	No
			Be	-0.000304	0.000000	No
			Ti	0.000172	0.000000	No
Pb 220.353 {453}	<input checked="" type="checkbox"/>	8	Al	0.000178	0.000000	No
			Fe	0.000125	0.000000	No
			Mo	-0.002189	0.000000	No
			Cu	0.000467	0.000000	No
			Ti	0.000036	0.000000	No
			Si	0.000232	0.000000	No
			Ca	-0.000005	0.000000	No
			Cr	-0.000260	0.000000	No
Sb 206.833 {463}	<input checked="" type="checkbox"/>	11	Fe	0.000015	0.000000	No
			Cr	0.011486	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Mo	-0.003944	0.000000	No
			V	-0.000441	0.000000	No
			Sn	-0.008695	0.000000	No
			Ti	0.000278	0.000000	No
			Ca	0.000001	0.000000	No
			Ni	-0.000818	0.000000	No
			Al	0.000010	0.000000	No
			Mn	-0.000133	0.000000	No
			Mg	-0.000002	0.000000	No
Se 196.090 {472}	<input checked="" type="checkbox"/>	12	Fe	0.000008	0.000000	No
			Ca	-0.000003	0.000000	No
			Mn	0.000331	0.000000	No
			Mo	0.000111	0.000000	No
			Al	-0.000031	0.000000	No
			V	0.000000	0.000000	No
			Zn	0.000000	0.000000	No
			Sr	-0.000111	0.000000	No
			As	0.000125	0.000000	No
			Cd	-0.000250	0.000000	No
			Mg	-0.000004	0.000000	No
			Cr	0.000326	0.000000	No
Si 212.412 {459}	<input checked="" type="checkbox"/>	1	Mo	0.000000	0.000000	No
Sn 189.989 {477}	<input checked="" type="checkbox"/>	None				
Sr 407.771 { 83}	<input checked="" type="checkbox"/>	1	Ca	0.000094	0.000000	No
Ti 334.941 {101}	<input checked="" type="checkbox"/>	1	Ca	-0.000011	0.000000	No
Tl 190.856 {477}	<input checked="" type="checkbox"/>	10	Co	0.004099	0.000000	No
			Fe	0.000018	0.000000	No
			Al	-0.000005	0.000000	No
			Ba	-0.000051	0.000000	No
			Ti	-0.000648	0.000000	No
			Sb	0.000167	0.000000	No
			Ca	-0.000004	0.000000	No
			Cr	0.000340	0.000000	No
			Mg	-0.000002	0.000000	No
			V	0.000015	0.000000	No
V 292.402 {115}	<input checked="" type="checkbox"/>	5	Fe	-0.000002	0.000000	No
			Cr	-0.003634	0.000000	No
			Mo	-0.009536	0.000000	No
			Ti	0.000303	0.000000	No
			Mn	-0.000333	0.000000	No
Y 224.306 {450}* Y 360.073 { 94}* Y 371.030 { 91}* Zn 206.200 {463}	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	None None None 5				
			Cr	-0.001305	0.000000	No
			Al	0.000011	0.000000	No
			Ca	0.000003	0.000000	No
			Fe	-0.000010	0.000000	No
			As	0.001105	0.000000	No

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.000268	0.529194	0.000000	1.000000
Al 396.152 { 85}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.002374	0.190331	0.000000	1.000000
As 189.042 {478}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.000435	0.149765	0.000000	1.000000
Ba 455.403 { 74}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.002838	8.342649	0.000000	1.000000
Be 313.042 {108}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.001804	10.271521	0.000000	1.000000
Ca 317.933 {106}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.007455	0.282062	0.000000	1.000000
Cd 226.502 {449}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.001017	3.941934	0.000000	1.000000
Co 228.616 {447}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.000390	2.272347	0.000000	1.000000
Cr 267.716 {126}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.000184	0.420594	0.000000	1.000000
Cu 324.754 {104}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.005399	0.751134	0.000000	1.000000
Fe 259.940 {130}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.001896	0.174367	0.000000	1.000000
In 230.606 {446}*	9/1/2016 9:19:22	5/5/2010 12:30:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.006985	0.082719	0.000000	1.000000
Mg 279.079 {121}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.000041	0.028082	0.000000	1.000000
Mn 257.610 {131}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.000542	2.009267	0.000000	1.000000
Mo 202.030 {467}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.001608	0.950868	0.000000	1.000000
Na 589.592 { 57}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.006661	0.324169	0.000000	1.000000
Ni 231.604 {445}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.000459	1.276897	0.000000	1.000000
Pb 220.353 {453}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.000183	0.785879	0.000000	1.000000
Sb 206.833 {463}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.000552	0.197618	0.000000	1.000000
Se 196.090 {472}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.000369	0.110852	0.000000	1.000000
Si 212.412 {459}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.004214	0.392345	0.000000	1.000000
Sn 189.989 {477}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.000561	0.364207	0.000000	1.000000
Sr 407.771 { 83}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.001278	14.018113	0.000000	1.000000
Ti 334.941 {101}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.001958	1.477767	0.000000	1.000000
Tl 190.856 {477}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.001544	0.266601	0.000000	1.000000
V 292.402 {115}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	-0.000465	0.593397	0.000000	1.000000
Y 224.306 {450}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	9/1/2016 9:19:22	9/1/2016 8:46:48	Linear	1/Conc	0.000864	2.063718	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999914	0.000067	0.000341	0.001135	OK	1.000000	0.000000	1	0
Al 396.152 {85}	0.999853	0.005273	0.007889	0.026298	OK	1.000000	0.000000	1	0
As 189.042 {478}	0.999964	0.000102	0.000900	0.002999	OK	1.000000	0.000000	1	0
Ba 455.403 {74}	0.999969	0.005276	0.000216	0.000721	OK	1.000000	0.000000	1	0
Be 313.042 {108}	0.999947	0.008522	0.000065	0.000216	OK	1.000000	0.000000	1	0
Ca 317.933 {106}	0.999746	0.010252	0.002771	0.009236	OK	1.000000	0.000000	1	0
Cd 226.502 {449}	0.999911	0.004250	0.000053	0.000177	OK	1.000000	0.000000	1	0
Co 228.616 {447}	0.999937	0.002058	0.000103	0.000343	OK	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999892	0.000498	0.000259	0.000863	OK	1.000000	0.000000	1	0
Cu 324.754 {104}	0.999971	0.000461	0.000214	0.000713	OK	1.000000	0.000000	1	0
Fe 259.940 {130}	0.999574	0.008203	0.002343	0.007811	OK	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
K 766.490 {44}	0.999925	0.001628	0.029520	0.098399	OK	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999866	0.000741	0.018248	0.060826	OK	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999742	0.003676	0.000046	0.000154	OK	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999965	0.000639	0.000143	0.000478	OK	1.000000	0.000000	1	0
Na 589.592 {57}	0.999903	0.007262	0.007682	0.025606	OK	1.000000	0.000000	1	0
Ni 231.604 {445}	0.999902	0.001437	0.000186	0.000619	OK	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999911	0.000847	0.000684	0.002280	OK	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999966	0.000131	0.001065	0.003550	OK	1.000000	0.000000	1	0
Se 196.090 {472}	0.999968	0.000072	0.001781	0.005937	OK	1.000000	0.000000	1	0
Si 212.412 {459}	0.993672	0.003572	0.000383	0.001276	OK	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999949	0.000295	0.000317	0.001055	OK	1.000000	0.000000	1	0
Sr 407.771 {83}	0.999970	0.008698	0.000084	0.000280	OK	1.000000	0.000000	1	0
Ti 334.941 {101}	0.999752	0.002650	0.000109	0.000364	OK	1.000000	0.000000	1	0
Tl 190.856 {477}	0.999970	0.000166	0.001171	0.003903	OK	1.000000	0.000000	1	0
V 292.402 {115}	0.999882	0.000723	0.000239	0.000796	OK	1.000000	0.000000	1	0
Y 224.306 {450}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 360.073 {94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 {91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999932	0.001936	0.000076	0.000254	OK	1.000000	0.000000	1	0

Zoom In
Zoom Out

Sample Name: Blank Acquired: 9/2/2016 8:24:27 Type: Cal
Method: 60102007_041712(v272) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-0014	0008	-0003	0023	0001	0058	-0002	0004	0005
Stddev	0001	0014	0001	0009	0002	0004	0002	0001	0001
%RSD	8.121	162.8	24.87	39.70	113.3	7.591	124.4	37.56	22.52

#1	-0014	0011	-0002	0024	0002	0055	-0001	0002	0005
#2	-0013	-0006	-0003	0013	0000	0063	-0005	0005	0004
#3	-0015	0021	-0004	0031	0003	0056	0000	0004	0006

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	0017	0007	0105	0003	0001	-0002	-0002	-0006	0016
Stddev	0001	0002	0024	0005	0001	0001	0012	0003	0009
%RSD	5.346	25.72	22.64	168.1	80.35	44.16	53.96	48.13	54.55

#1	0017	0008	0132	0007	0000	-0002	-0010	-0008	0020
#2	0016	0008	0099	-0002	0002	-0001	-0035	-0007	0022
#3	0018	0005	0085	0004	0002	-0002	-0024	-0003	0006

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	0004	-0005	0031	0005	-0078	0015	-0028	-0001	0012
Stddev	0000	0000	0001	0001	0007	0000	0005	0001	0001
%RSD	9.242	3.305	3.131	25.01	8.439	1.729	17.69	71.07	10.94

#1	0005	-0005	0031	0006	-0085	0015	-0023	-0001	0011
#2	0004	-0005	0030	0004	-0074	0015	-0028	-0002	0010
#3	0004	-0006	0032	0006	-0073	0016	-0033	-0001	0013

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2716.2	7651.4	54898.	7827.5
Stddev	12.2	11.4	123.	24.3
%RSD	4.4827	1.4876	22375	3.1021

#1	2724.0	7663.2	54885.	7833.3
#2	2702.1	7640.4	55026.	7800.8
#3	2722.4	7650.6	54782.	7848.2

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Zoom In
Zoom Out

Sample Name: MidStd Acquired: 9/2/2016 8:31:21 Type: Cal
Method: 60102007_041712(v272) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	01070	6180	3381	16.04	15.24	11.17	9.575	4.401	9226	1.105
Stddev	00004	011	0003	08	01	01	006	003	0007	001
%RSD	3.678	1.721	0.805	4.878	0.555	0.898	0.638	0.644	0.756	0.949

#1	01066	6179	3384	15.95	15.24	11.17	9.568	4.398	9224	1.104
#2	01074	6170	3378	16.09	15.23	11.16	9.577	4.400	9234	1.106
#3	01070	6191	3382	16.08	15.24	11.18	9.579	4.404	9221	1.106

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.734	3.065	9925	4.381	1.999	13.10	2.228	2.470	3.883	2370
Stddev	016	006	0009	052	005	01	003	006	0004	0006
%RSD	2.767	1.953	0.891	1.182	2.398	1.100	1.490	2.284	0.905	2.481

#1	5.717	3.070	9931	4.337	1.994	13.09	2.224	2.476	3.882	2364
#2	5.737	3.059	9915	4.368	1.998	13.09	2.230	2.468	3.881	2371
#3	5.748	3.067	9929	4.438	2.004	13.12	2.230	2.465	3.887	2375

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7680	9171	27.31	3.093	1.139	1.209	5.778
Stddev	0010	0006	04	006	001	003	002
%RSD	1.342	0.615	1.318	2.077	1.009	2.632	0.342

#1	7668	9177	27.29	3.086	1.141	1.207	5.777
#2	7683	9167	27.28	3.099	1.139	1.213	5.777
#3	7688	9168	27.35	3.093	1.138	1.209	5.780

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2428.7	7386.0	53381.	7773.6
Stddev	5.4	5.7	220.	22.3
%RSD	2.2101	0.7705	4.1278	2.8630

#1	2423.3	7390.5	53613.	7754.1
#2	2429.0	7379.6	53174.	7797.8
#3	2434.0	7387.8	53355.	7768.7

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Zoom In
Zoom Out

Sample Name: LowStd Acquired: 9/2/2016 8:27:57 Type: Cal
Method: 60102007_041712(v272) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	0246	1.619	0.808	3.875	3.702	2.946	2.353	1.083	2.277	2.693
Stddev	0003	005	0004	009	014	009	002	001	0007	0005
%RSD	1.236	2.856	4.462	2.449	3.704	3.146	0.877	1.079	3.003	1.762

#1	0248	1.617	0.805	3.885	3.696	2.946	2.351	1.081	2.270	2.689
#2	0248	1.624	0.812	3.866	3.718	2.956	2.355	1.083	2.284	2.692
#3	0243	1.615	0.808	3.873	3.692	2.937	2.353	1.084	2.277	2.698

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.584	8041	2614	1.094	4.977	3.429	5.474	5.918	0.935	0.563
Stddev	004	0046	0012	002	0009	008	0015	0011	0003	0003
%RSD	2.554	5.725	4.653	1.621	1.806	2.270	2.688	1.885	3.421	5.545

#1	1.583	7.993	2607	1.096	4.970	3.424	5.465	5.929	0.931	0.560
#2	1.589	8085	2628	1.093	4.974	3.438	5.465	5.917	0.937	0.563
#3	1.581	8045	2606	1.093	4.987	3.425	5.490	5.907	0.936	0.566

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2545	2291	6.710	7.659	2.713	3.013	1.424
Stddev	0004	0003	015	0008	0006	0009	001
%RSD	1.538	1.260	2.266	1.057	2.366	2.877	0.900

#1	2541	2.288	6.708	7.663	2.719	3.003	1.423
#2	2549	2.294	6.725	7.665	2.714	3.017	1.424
#3	2546	2.292	6.695	7.650	2.706	3.019	1.426

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2596.1	7581.8	54340.	7825.8
Stddev	6	10.1	194.	13.4
%RSD	0.2141	1.3312	3.5623	1.7102

#1	2596.7	7591.3	54392.	7819.5
#2	2595.9	7583.1	54126.	7816.6
#3	2595.6	7571.2	54503.	7841.1

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Zoom In
Zoom Out

Sample Name: HighStd Acquired: 9/2/2016 8:35:09 Type: Cal
Method: 60102007_041712(v272) Mode: IR Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2086	12.13	6.676	31.69	29.86	21.76	18.65	8.612	1.797	2.199
Stddev	0002	04	0013	04	04	07	01	005	001	003
%RSD	1.198	3.624	1.951	1.126	1.393	3.010	0.696	0.558	0.693	1.206

#1	2089	12.17	6.680	31.69	29.90	21.82	18.66	8.617	1.796	2.201
#2	2084	12.09	6.662	31.73	29.82	21.69	18.65	8.608	1.798	2.200
#3	2085	12.14	6.687	31.66	29.86	21.75	18.63	8.610	1.796	2.196

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	11.61	5.985	1.919	8.509	3.969	25.61	4.364	4.948	7.767	4.708
Stddev	02	030	007	040	003	06	004	009	0010	0005
%RSD	1.641	4.941	3.583	4.691	0.722	2.432	0.987	1.909	1.329	1.065

#1	11.61	6.016	1.924	8.550	3.967	25.67	4.368	4.959	7.756	4.714
#2	11.59	5.958	1.911	8.505	3.967	25.55	4.360	4.943	7.766	4.704
#3	11.63	5.981	1.921	8.470	3.972	25.60	4.362	4.942	7.777	4.708

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.411	1.796	53.03	5.968	2.254	2.348	11.26
Stddev	001	001	98	083	005	002	01
%RSD	0.966	0.547	1.852	1.392	2.040	0.948	0.770

#1	1.411	1.797	53.59	5.903	2.260	2.348	11.27
#2	1.409	1.795	51.90	5.939	2.251	2.350	11.26
#3	1.412	1.796	53.62	6.062	2.253	2.346	11.25

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2291.7	7148.4	52106.	7675.3
Stddev	4.3	7.5	249.	62.2
%RSD	1.8790	1.0493	4.7833	8.1038

#1	2288.0	7147.0	52243.	7666.4
#2	2290.7	7141.8	52257.	7741.4
#3	2296.4	7156.6	51818.	7618.0

Sample Name: HSTD Acquired: 9/2/2016 8:40:00 Type: QC
Method: 60102007_041712(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4938	79.33	4.015	3.878	3.982	78.87	3.967	3.976	3.973	4.005
Stddev	.0035	.22	.007	.038	.013	.27	.007	.005	.008	.011
%RSD	.7002	.2792	.1769	.9903	.3342	.3410	.1733	.1214	.2037	.2768
#1	4912	79.50	4.022	3.912	3.992	79.16	3.973	3.981	3.968	4.007
#2	4925	79.41	4.014	3.886	3.986	78.84	3.968	3.977	3.982	4.015
#3	4977	79.08	4.008	3.837	3.967	78.62	3.959	3.972	3.969	3.993

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	79.58	79.32	78.61	3.942	3.992	78.82	3.964	4.018	4.013	4.001
Stddev	.36	.15	.34	.033	.002	.17	.000	.008	.004	.004
%RSD	.4580	.1870	.4280	.8382	.0513	.2142	.0030	.2013	.0987	.0991
#1	79.83	79.49	78.95	3.913	3.994	79.00	3.964	4.015	4.017	4.005
#2	79.74	79.23	78.60	3.978	3.992	78.80	3.964	4.027	4.009	3.997
#3	79.16	79.23	78.28	3.935	3.990	78.67	3.964	4.012	4.013	4.002

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.768	3.979	4.004	3.944	3.994	3.965	3.964
Stddev	.002	.007	.102	.044	.005	.007	.008
%RSD	.0440	.1795	2.546	1.117	.1334	.1749	.1938
#1	3.766	3.984	4.120	3.932	3.988	3.961	3.971
#2	3.769	3.981	3.966	3.993	3.999	3.961	3.964
#3	3.769	3.971	3.927	3.908	3.993	3.973	3.956

Check ? None Chk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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Sample Name: HSTD Acquired: 9/2/2016 8:40:00 Type: QC
Method: 60102007_041712(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2293.8	7155.6	52106.	7665.2
Stddev	3.7	8.4	345.	83.2
%RSD	.16257	.11804	.66299	1.0854
#1	2295.7	7145.9	52453.	7569.5
#2	2289.5	7159.4	51762.	7720.6
#3	2296.3	7161.5	52104.	7705.4

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Sample Name: ICV Acquired: 9/2/2016 8:47:36 Type: QC
Method: 60102007_041712(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2520	40.22	2.040	2.060	2.056	40.33	2.066	2.062	2.069	2.050
Stddev	.0001	.04	.007	.004	.002	.04	.003	.003	.002	.001
%RSD	.0364	.0971	.3323	.1721	.1018	.0987	.1208	.1450	.1105	.0280
#1	2520	40.26	2.033	2.057	2.056	40.37	2.064	2.060	2.069	2.049
#2	2521	40.18	2.047	2.064	2.054	40.29	2.069	2.065	2.066	2.051
#3	2519	40.22	2.040	2.059	2.058	40.33	2.065	2.060	2.071	2.050

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.26	40.32	40.41	2.077	2.048	40.34	2.060	2.033	2.042	2.041
Stddev	.02	.06	.07	.021	.003	.08	.004	.005	.002	.003
%RSD	.0490	.1480	.1824	1.008	.1629	.2030	.1750	.2395	.0902	.1357
#1	40.24	40.37	40.46	2.097	2.046	40.37	2.063	2.037	2.044	2.038
#2	40.28	40.25	40.43	2.056	2.051	40.24	2.061	2.028	2.043	2.042
#3	40.25	40.32	40.32	2.079	2.046	40.40	2.056	2.033	2.040	2.044

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.659	2.044	2.061	2.082	2.054	2.057	2.067
Stddev	.003	.003	.003	.001	.002	.001	.001
%RSD	.1780	.1534	.1267	.0537	.1192	.0481	.0584
#1	1.661	2.041	2.061	2.083	2.056	2.057	2.068
#2	1.660	2.047	2.059	2.082	2.054	2.057	2.067
#3	1.655	2.045	2.064	2.081	2.051	2.058	2.066

Check ? None Chk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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Sample Name: ICV Acquired: 9/2/2016 8:47:36 Type: QC
Method: 60102007_041712(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2428.0	7365.8	53151.	7627.1
Stddev	5.7	1.0	188.	4.8
%RSD	.23516	.01405	.35361	.06347
#1	2424.3	7365.1	53143.	7627.2
#2	2434.6	7367.0	53344.	7622.2
#3	2425.2	7365.4	52968.	7631.9

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Sample Name: ICB Acquired: 9/2/2016 8:56:12 Type: QC
Method: 60102007_041712(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0099	.0003	-.0002	.0001	.0008	.0000	.0001
Stddev	.0003	.0101	.0004	.0001	.0000	.0016	.0000	.0001
%RSD	956.2	102.6	131.9	80.57	81.59	193.0	775.0	248.4
#1	.0000	-.0012	.0007	-.0001	.0001	.0013	.0000	-.0001
#2	-.0002	.0123	.0003	-.0001	.0001	-.0009	.0000	.0002
#3	.0003	.0186	-.0001	-.0003	.0000	.0021	.0000	.0000

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0001	.0037	.0010	-.0060	.0001	.0009	.0087
Stddev	.000	.0004	.0025	.0296	.0062	.0000	.0002	.0088
%RSD	770.5	379.6	66.91	3034.	103.6	20.23	22.42	100.6
#1	.0001	.0004	.0065	.0293	-.0039	.0001	.0010	.0036
#2	.0001	-.0004	.0027	-.0297	-.0130	.0001	.0008	.0189
#3	-.0002	.0003	.0018	.0032	-.0011	.0001	.0007	.0037

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0003	-.0001	F-.0021	.0003	.0001	.0000	.0004
Stddev	.0002	.0003	.0012	.0015	.0001	.0003	.0001	.0000
%RSD	125.6	84.06	1028.	75.05	47.97	196.7	406.8	8.932
#1	-.0003	.0000	-.0007	-.0012	.0003	.0000	.0001	.0005
#2	.0000	.0006	-.0009	-.0011	.0004	-.0001	.0000	.0005
#3	-.0001	.0003	.0012	-.0038	.0001	.0004	.0000	.0004

Check ? Chk Pass Chk Pass Chk Pass Chk Fail None Chk Pass Chk Pass Chk Pass
High Limit .0020
Low Limit -.0020

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Sample Name: CRIA Acquired: 9/2/2016 9:03:35 Type: QC
Method: 60102007_041712(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0088	.2258	.0108	.2130	.0054	1.077	.0055	.0544	.0110	.0261
Stddev	.0002	.0048	.0008	.0004	.0000	.002	.0000	.0001	.0001	.0006
%RSD	2.481	2.140	7.626	.1981	.0446	.2166	.5111	.1473	1.015	2.112
#1	.0091	.2203	.0113	.2128	.0054	1.077	.0055	.0544	.0110	.0263
#2	.0087	.2291	.0114	.2128	.0054	1.074	.0054	.0545	.0109	.0266
#3	.0087	.2280	.0099	.2135	.0053	1.079	.0055	.0545	.0111	.0255

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.3251	10.62	5.420	.0164	.0525	10.63	.0429	.0057	.0053	.0103
Stddev	.0008	.05	.030	.0000	.0002	.00	.0002	.0004	.0007	.0016
%RSD	.2581	.4392	.5534	.2023	.2881	.0350	.5484	7.101	13.77	15.92
#1	.3244	10.61	5.395	.0164	.0525	10.64	.0429	.0061	.0061	.0112
#2	.3250	10.59	5.411	.0164	.0526	10.63	.0432	.0055	.0046	.0113
#3	.3261	10.68	5.453	.0164	.0523	10.63	.0427	.0053	.0053	.0084

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0054	.0539	.0105	.0107	.0111	.0508	.0222
Stddev	.0001	.0002	.0000	.0002	.0007	.0003	.0001
%RSD	2.774	.3742	.4058	1.953	6.140	.6166	.3052
#1	.0053	.0541	.0106	.0106	.0114	.0504	.0222
#2	.0056	.0539	.0105	.0106	.0116	.0510	.0221
#3	.0053	.0537	.0106	.0110	.0103	.0508	.0222

Check ? None Chk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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Sample Name: ICB Acquired: 9/2/2016 8:56:12 Type: QC
Method: 60102007_041712(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm
Avg	-.0004	.0001	-.0001
Stddev	.0004	.0001	.0000
%RSD	93.86	120.3	50.04
#1	-.0002	.0000	.0000
#2	-.0001	.0001	-.0001
#3	-.0008	.0002	.0000

Check ? Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2719.0	7629.7	54832.	7776.3
Stddev	7.2	17.0	107.	80.6
%RSD	26343	.22235	.19452	1.0362
#1	2724.4	7649.0	54806.	7825.9
#2	2721.8	7623.0	54949.	7683.3
#3	2710.9	7617.1	54740.	7819.7

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Sample Name: CRIA Acquired: 9/2/2016 9:03:35 Type: QC
Method: 60102007_041712(v272) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2648.2	7583.2	54493.	7843.0
Stddev	9.3	14.5	73.	25.3
%RSD	.34989	.19074	.13401	.32315
#1	2640.1	7566.5	54467.	7813.8
#2	2646.3	7591.8	54575.	7855.9
#3	2658.3	7591.2	54437.	7859.4

Sample Name: ICSA Acquired: 9/2/2016 9:09:52 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	492.4	.0018	-.0003	.0000	467.2	.0000	.0005	.0002
Stddev	.0002	2.6	.0016	.0002	.0001	3.2	.000	.0001	.0001
%RSD	42.17	5233	91.33	82.80	193.4	.6878	483.2	20.33	47.39
#1	-.0004	491.9	.0021	-.0004	.0000	470.9	-.0001	.0005	.0003
#2	-.0004	490.0	.0032	.0000	.0000	465.0	.0001	.0006	.0001
#3	-.0007	495.1	.0000	-.0003	.0001	465.8	.0000	.0004	.0002

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	180.9	.0716	505.8	-.0001	.0001	.1772	.0000	.0001
Stddev	.0005	.4	.0145	.5	.0001	.0005	.0110	.0002	.0002
%RSD	3657.	2379	20.25	.0959	170.3	414.7	6.227	554.8	243.6
#1	.0000	180.9	.0736	506.1	-.0001	.0007	.1651	-.0002	.0000
#2	-.0005	180.5	.0850	506.0	-.0001	.0001	.1796	.0001	.0003
#3	.0005	181.3	.0562	505.2	.0001	-.0004	.1868	.0002	-.0001

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass None Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0000	.0429	F.0029	.0002	.0010	.0014	.0002	-.0005
Stddev	.0030	.0022	.0001	.0008	.0003	.0001	.0004	.0002	.0001
%RSD	485.2	5071.	.3493	27.09	173.0	7.547	29.84	105.9	13.62
#1	.0030	.0025	.0429	.0037	-.0002	.0009	.0010	.0001	-.0005
#2	.0016	-.0007	.0427	.0029	.0003	.0009	.0015	.0003	-.0005
#3	-.0028	-.0017	.0430	.0021	.0003	.0010	.0018	.0000	-.0004

Check ? Chk Pass Chk Pass None Chk Fail Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit .0010
Low Limit -.0010

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Sample Name: ICSAB Acquired: 9/2/2016 9:16:57 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9746	496.8	1.165	.5190	.4918	479.4	.9727	.4900	.5143	.5294
Stddev	.0025	5.8	.002	.0007	.0023	5.8	.0011	.0005	.0021	.0013
%RSD	.2592	1.159	.1839	.1376	.4717	1.211	.1144	.1023	.4093	.2476
#1	.9773	490.6	1.162	.5192	.4891	473.3	.9730	.4900	.5162	.5284
#2	.9742	502.0	1.166	.5197	.4935	484.9	.9715	.4895	.5146	.5290
#3	.9723	497.8	1.166	.5182	.4927	480.0	.9736	.4905	.5121	.5309

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	180.3	.0868	505.5	.5009	.9974	.1836	.9593	.9880	1.058	1.040
Stddev	.9	.0318	2.4	.0008	.0016	.0042	.0013	.0007	.001	.004
%RSD	.4828	36.65	.4803	.1683	.1641	2.279	.1357	.0668	.1132	.3495
#1	179.3	.0818	502.7	.5019	.9973	.1847	.9584	.9888	1.058	1.039
#2	181.0	.0578	506.3	.5003	.9957	.1871	.9586	.9875	1.058	1.036
#3	180.6	.1209	507.4	.5006	.9990	.1790	.9608	.9879	1.060	1.044

Check ? Chk Pass None Chk PassChk PassChk Pass None Chk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0401	1.001	1.035	1.052	1.022	.4810	.9646
Stddev	.0005	.001	.003	.001	.003	.0019	.0016
%RSD	1.253	.1337	.2461	.0716	.2814	.3920	.1621
#1	.0401	.9997	1.032	1.052	1.022	.4826	.9646
#2	.0395	1.002	1.037	1.052	1.019	.4813	.9631
#3	.0405	1.002	1.036	1.053	1.025	.4789	.9662

Check ? None Chk Pass None None Chk PassChk PassChk Pass
Value
Range

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Sample Name: ICSA Acquired: 9/2/2016 9:09:52 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2142.3	6799.4	48452.	7478.7
Stddev	2.3	4.0	157.	43.9
%RSD	.10554	.05951	.32444	.58754
#1	2142.6	6794.8	48571.	7474.7
#2	2139.9	6802.2	48511.	7524.5
#3	2144.4	6801.3	48274.	7436.9

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Sample Name: ICSAB Acquired: 9/2/2016 9:16:57 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2114.8	6744.1	48569.	7416.5
Stddev	6.0	13.6	204.	90.2
%RSD	.28196	.20211	.42099	1.2164
#1	2112.9	6742.5	48342.	7515.1
#2	2121.5	6758.4	48627.	7338.0
#3	2110.0	6731.3	48739.	7396.5

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Sample Name: CCV Acquired: 9/2/2016 9:26:02 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2586	40.03	2.052	2.044	1.984	39.91	2.038	2.034	2.029	1.976
Stddev	.0016	.12	.005	.007	.008	.13	.002	.001	.001	.003
%RSD	.6379	.3075	.2484	.3537	.3977	.3264	.0757	.0302	.0553	.1428
#1	2596	39.93	2.056	2.049	1.979	39.82	2.038	2.033	2.029	1.972
#2	2567	40.00	2.055	2.047	1.981	39.86	2.039	2.034	2.027	1.977
#3	2595	40.17	2.046	2.035	1.993	40.06	2.036	2.033	2.029	1.977

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.55	40.60	40.43	2.014	2.003	40.13	2.008	1.985	1.999	1.991
Stddev	.09	.13	.03	.022	.003	.10	.002	.003	.007	.005
%RSD	.2322	.3109	.0662	1.115	.1424	.2546	.1120	.1301	.3280	.2564
#1	38.49	40.48	40.41	2.004	2.000	40.05	2.006	1.982	1.991	1.988
#2	38.50	40.60	40.43	1.999	2.004	40.10	2.009	1.985	2.003	1.988
#3	38.65	40.73	40.46	2.040	2.005	40.24	2.010	1.988	2.002	1.997

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.033	2.044	2.014	2.032	2.002	2.044	2.028
Stddev	.003	.004	.007	.006	.004	.002	.001
%RSD	.1346	.2158	.3465	.2966	.1827	.1103	.0632
#1	2.030	2.048	2.007	2.030	1.998	2.045	2.027
#2	2.034	2.044	2.015	2.027	2.004	2.041	2.029
#3	2.035	2.039	2.021	2.039	2.005	2.045	2.027

Check ? None Chk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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Sample Name: CCB Acquired: 9/2/2016 9:33:58 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.002	.0122	.0007	-0.002	.0002	.0061	.0000	.0001	.0002	.0000
Stddev	.0003	.0029	.0004	.0003	.0000	.0037	.0001	.0001	.0002	.0002
%RSD	111.3	23.93	56.16	110.5	24.25	61.20	189.8	99.04	100.5	451.3
#1	-0.002	.0155	.0007	-0.002	.0002	.0034	.0000	.0001	.0000	-0.001
#2	-0.005	.0099	.0003	.0000	.0002	.0104	.0001	.0000	.0003	-0.001
#3	.0000	.0111	.0011	-0.005	.0002	.0045	.0000	.0002	.0004	.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0095	.0294	-0.004	.0001	.0006	.0317	.0003	.0002	.0001	-.0013
Stddev	.0044	.0270	.0188	.0000	.0001	.0067	.0002	.0006	.0012	.0007
%RSD	46.28	91.80	5219.	33.58	15.97	21.19	62.86	269.0	878.0	51.36
#1	.0133	.0544	-.0116	.0001	.0006	.0393	.0002	.0003	-.0008	-.0021
#2	.0104	.0008	-.0109	.0002	.0005	.0266	.0004	.0007	-.0003	-.0007
#3	.0047	.0329	.0214	.0001	.0005	.0291	.0001	-.0004	.0015	-.0012

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-0.001	.0002	.0003	.0009	.0002	.0000
Stddev	.0001	.0003	.0001	.0001	.0005	.0001	.000
%RSD	46.44	304.8	40.34	18.13	58.55	72.23	758.4
#1	.0002	.0000	.0002	.0003	.0004	.0000	.0000
#2	.0002	.0002	.0002	.0002	.0015	.0003	.0000
#3	.0003	-.0004	.0001	.0003	.0007	.0002	-.0001

Check ? None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCV Acquired: 9/2/2016 9:26:02 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2430.7	7328.7	53131.	7715.3
Stddev	2.6	7.9	140.	72.7
%RSD	.10663	.10819	.26297	.94181
#1	2433.7	7332.8	53125.	7730.8
#2	2429.4	7319.5	53273.	7779.0
#3	2429.1	7333.7	52994.	7636.2

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Sample Name: CCB Acquired: 9/2/2016 9:33:58 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2713.2	7597.0	54557.	7711.5
Stddev	4.0	24.0	299.	14.4
%RSD	.14591	.31561	.54866	.18709
#1	2716.6	7618.2	54628.	7699.9
#2	2714.1	7601.8	54229.	7707.0
#3	2708.9	7571.0	54815.	7727.6

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Sample Name: MP30788-MB1 Acquired: 9/2/2016 9:38:30 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0254	-.0004	.0002	.0000	.0526	.0000	.0000	.0013	.0012
Stddev	.0001	.0107	.0003	.0001	.000	.0021	.000	.0001	.0001	.0006
%RSD	13.97	42.35	72.06	24.11	195.7	3.961	27.32	801.9	5.048	52.31
#1	-.0004	.0197	-.0002	.0002	.0000	.0544	.0000	.0001	.0014	.0010
#2	-.0004	.0377	-.0003	.0003	.0000	.0503	.0000	-.0001	.0013	.0018
#3	-.0003	.0186	-.0008	.0002	.0000	.0531	-.0001	.0000	.0013	.0007

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0311	.0295	.0005	.0014	.0005	.0326	.0002	.0011	.0006	.0002
Stddev	.0015	.0227	.0266	.0000	.0000	.0097	.0001	.0004	.0006	.0011
%RSD	4.973	77.04	5122.	2.676	2.319	29.64	63.37	40.20	108.9	546.6
#1	.0314	.0522	-.0076	.0014	.0004	.0317	.0001	.0006	.0013	.0015
#2	.0326	.0067	.0303	.0014	.0005	.0233	.0003	.0015	.0001	-.0004
#3	.0295	.0296	-.0211	.0014	.0005	.0426	.0003	.0011	.0003	-.0005

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0154	.0219	.0001	.0013	-.0004	-.0001	.0041
Stddev	.0003	.0003	.0001	.0001	.0004	.0002	.0000
%RSD	2.200	1.147	59.55	9.803	102.5	177.4	.6112
#1	.0157	.0216	.0002	.0013	-.0008	.0000	.0041
#2	.0151	.0220	.0001	.0015	.0000	-.0004	.0041
#3	.0155	.0221	.0000	.0012	-.0004	.0000	.0041

Check ? None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: MP30788-MB1 Acquired: 9/2/2016 9:38:30 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2662.3	7488.1	54166.	7667.0
Stddev	1.4	11.5	120.	34.3
%RSD	.05166	.15419	.22147	.44720
#1	2660.9	7480.1	54064.	7646.3
#2	2662.4	7482.9	54298.	7648.1
#3	2663.7	7501.3	54137.	7706.5

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Sample Name: MP30788-B1 Acquired: 9/2/2016 9:42:40 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0506	28.99	2.125	2.208	.0558	27.45	.0543	.5419	.2204	.2735
Stddev	.0005	.03	.007	.011	.0001	.03	.0001	.0005	.0006	.0003
%RSD	.9132	.0871	.3215	.4765	.1215	.1179	.1877	.0981	.2805	.1184
#1	.0502	29.01	2.121	2.218	.0559	27.46	.0544	.5424	.2204	.2735
#2	.0511	28.96	2.121	2.209	.0557	27.42	.0542	.5421	.2210	.2731
#3	.0506	28.99	2.133	2.197	.0558	27.48	.0544	.5413	.2198	.2738

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	28.31	27.09	26.82	.5535	.5416	27.11	.5427	.5279	.5299	2.137
Stddev	.06	.09	.02	.0018	.0007	.03	.0019	.0019	.0015	.007
%RSD	.2119	.3318	.0779	.3278	.1244	.1097	.3552	.3654	.2842	.3116
#1	28.34	27.08	26.81	.5552	.5416	27.14	.5448	.5298	.5283	2.144
#2	28.35	27.01	26.84	.5537	.5410	27.10	.5422	.5278	.5299	2.137
#3	28.24	27.19	26.80	.5516	.5423	27.08	.5411	.5260	.5314	2.130

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0200	.5668	.5395	.5517	2.104	.5248	.5437
Stddev	.0007	.0009	.0013	.0019	.005	.0010	.0007
%RSD	3.701	.1546	.2477	.3420	.2621	.1859	.1202
#1	.0203	.5658	.5410	.5533	2.108	.5255	.5445
#2	.0192	.5675	.5387	.5521	2.106	.5252	.5435
#3	.0206	.5672	.5387	.5496	2.098	.5237	.5432

Check ? None Chk Pass None None Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: MP30788-B1 Acquired: 9/2/2016 9:42:40 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2452.9	7274.3	52481.	7502.8
Stddev	7.6	7.6	101.	23.0
%RSD	.31086	.10506	.19178	.30691
#1	2446.8	7275.8	52457.	7529.4
#2	2450.4	7266.1	52394.	7489.0
#3	2461.5	7281.1	52591.	7490.0

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◀ Zoom In ▶
Zoom Out

Sample Name: C46963-1 Acquired: 9/2/2016 9:46:36 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)	
Avg	.0143	.340.4	.0585	2.459	.0022	807.5	-.0006	-.1641	-.6956	-.8348
Stddev	.0018	.5	.0018	.006	.0002	1.3	.0003	.0005	.0022	.0031
%RSD	12.64	.1462	3.101	.2430	8.704	.1583	42.17	.3267	.3172	.3713

#1	.0163	340.0	.0605	2.459	.0023	807.0	-.0006	-.1642	-.6977	-.8330
#2	.0129	341.0	.0579	2.465	.0022	808.9	-.0004	-.1635	-.6958	-.8331
#3	.0136	340.4	.0570	2.453	.0020	806.5	-.0009	-.1645	-.6933	-.8384

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	399.2	21.68	170.4	7.942	.0101	15.05	8376	.2620	-.0042	-.0178
Stddev	1.0	.10	.1	.025	.0005	.01	.0016	.0012	.0063	.0067
%RSD	.2401	.4739	.0734	.3132	4.752	.0989	.1902	.4401	148.6	37.94

#1	398.1	21.71	170.3	7.966	.0106	15.05	8374	.2619	-.0078	-.0239
#2	399.9	21.77	170.5	7.944	.0100	15.04	8393	.2631	-.0079	-.0189
#3	399.7	21.57	170.5	7.916	.0097	15.06	8361	.2608	-.0030	-.0106

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.879	.0163	1.603	14.09	.0190	1.142	.9110
Stddev	.016	.0011	.002	.13	.0016	.001	.0026
%RSD	.5486	6.837	.1460	.9136	8.534	.1233	.2807

#1	2.862	.0165	1.600	13.98	.0208	1.143	.9085
#2	2.882	.0152	1.605	14.23	.0179	1.140	.9136
#3	2.893	.0174	1.604	14.07	.0182	1.142	.9109

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2486.8	7853.0	56097.	8244.5
Stddev	5.9	18.9	308.	16.5
%RSD	.23769	.24112	.54851	.20072

#1	2492.0	7873.2	55840.	8263.2
#2	2480.3	7835.7	56012.	8231.6
#3	2488.0	7850.1	56438.	8238.8

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Sample Name: MP30788-SD1 Acquired: 9/2/2016 9:55:12 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 25.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0081	.361.1	.0522	2.583	.0006	862.1	-.0018	-.1758	-.7467	-.8914
Stddev	.0090	.4	.0075	.003	.0023	1.8	.0013	.0008	.0072	.0056
%RSD	111.1	.1038	14.39	.1061	370.1	.2105	73.74	.4580	.9596	.6309

#1	.0126	360.9	.0607	2.586	.0033	860.5	-.0012	-.1755	-.7440	-.8975
#2	.0139	361.5	.0466	2.582	-.0005	864.1	-.0033	-.1768	-.7548	-.8864
#3	-.0023	360.8	.0492	2.581	-.0009	861.7	-.0009	-.1752	-.7413	-.8902

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	437.3	22.86	180.8	8.712	-.0012	16.43	.9162	.2513	-.0186	.0337
Stddev	.8	.64	.4	.035	.0019	.11	.0048	.0088	.0328	.0328
%RSD	.1782	2.780	.1999	.4057	164.3	.6810	.5198	3.506	176.1	97.38

#1	436.5	23.44	180.4	8.721	-.0002	16.34	.9173	.2532	-.0099	.0715
#2	438.1	22.96	180.9	8.742	-.0034	16.56	.9110	.2590	.0089	.0171
#3	437.1	22.18	181.1	8.673	.0001	16.40	.9204	.2416	-.0550	.0125

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	3.969	.0099	1.718	15.47	.0541	1.185	1.153
Stddev	.066	.0031	.002	.03	.0103	.006	.001
%RSD	1.673	31.68	.1399	.1930	19.03	.4714	.1060

#1	4.014	.0068	1.715	15.48	.0639	1.183	1.154
#2	3.893	.0098	1.719	15.49	.0433	1.191	1.152
#3	4.001	.0131	1.719	15.44	.0552	1.181	1.152

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2633.0	7753.2	54578.	7839.2
Stddev	7.1	8.6	219.	31.8
%RSD	.27130	.11088	.40083	.40601

#1	2640.6	7762.2	54568.	7874.5
#2	2631.9	7752.2	54364.	7812.9
#3	2626.4	7745.1	54801.	7830.0

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Sample Name: MP30788-D1 Acquired: 9/2/2016 9:50:45 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0185	.421.1	.0771	3.260	.0020	966.3	-.0004	-.2213	1.070	.8948
Stddev	.0025	1.2	.0023	.019	.0002	13.4	.0001	.0006	.004	.0046
%RSD	13.27	.2951	2.929	.5890	12.73	1.383	30.34	.2622	.3267	.5136

#1	.0208	419.7	.0795	3.254	.0022	967.0	.0006	.2211	1.066	.8914
#2	.0159	421.8	.0750	3.281	.0017	979.3	.0004	.2209	1.073	.8930
#3	.0188	421.8	.0767	3.244	.0019	952.6	.0004	.2220	1.071	.9000

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	511.7	26.06	216.9	10.67	.0134	19.28	1.274	.3469	-.0038	-.0232
Stddev	1.4	.06	1.0	.03	.0009	.09	.003	.0053	.0058	.0060
%RSD	.2696	.2280	.4565	.2558	6.715	.4487	.2271	1.529	155.1	25.88

#1	510.1	26.02	216.1	10.64	.0124	19.20	1.272	.3419	.0029	.0301
#2	512.6	26.13	218.0	10.69	.0140	19.28	1.273	.3464	-.0065	.0204
#3	512.4	26.04	216.6	10.69	.0138	19.37	1.277	.3525	-.0078	.0191

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.755	.0169	2.118	17.33	.0218	1.442	1.211
Stddev	.013	.0023	.008	.08	.0019	.005	.003
%RSD	.4789	13.55	.3748	.4565	8.648	.3216	.2145

#1	2.756	.0190	2.112	17.24	.0196	1.441	1.210
#2	2.768	.0171	2.115	17.36	.0228	1.447	1.210
#3	2.742	.0145	2.127	17.39	.0229	1.438	1.214

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2431.8	7882.6	55951.	8357.7
Stddev	3.5	2.7	123.	31.4
%RSD	.14229	.03424	.21997	.37574

#1	2433.9	7884.6	56066.	8375.4
#2	2433.8	7883.8	55822.	8321.5
#3	2427.8	7879.5	55966.	8376.2

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Sample Name: MP30788-PS1 Acquired: 9/2/2016 9:59:14 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0589	.352.4	.1548	2.767	.0511	830.9	.0473	.2117	.7638	.9794
Stddev	.0018	.6	.0018	.004	.0003	1.6	.0000	.0006	.0026	.0054
%RSD	3.098	.1787	1.172	.1300	.5645	.1896	.0455	.2985	.3404	.5512

#1	.0609	352.1	.1529	2.767	.0514	830.4	.0473	.2112	.7667	.9773
#2	.0582	352.0	.1549	2.764	.0508	829.6	.0473	.2115	.7629	.9753
#3	.0575	353.1	.1565	2.771	.0512	832.6	.0473	.2125	.7618	.9855

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	419.2	31.20	174.9	8.411	.1059	25.43	.9585	.3196	.0975	.1049
Stddev	1.5	.30	.6	.036	.0005	.10	.0021	.0059	.0017	.0044
%RSD	.3613	.9471	.3432	.4287	.4259	.3758	.2216	1.857	1.695	4.187

#1	418.0	31.45	174.8	8.448	.1063	25.39	.9599	.3246	.0994	.1077
#2	418.7	30.88	174.4	8.377	.1054	25.35	.9594	.3130	.0963	.1071
#3	420.9	31.28	175.6	8.406	.1060	25.53	.9560	.3211	.0968	.1098

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	3.885	.0615	1.722	15.02	.1183	1.202	1.159
Stddev	.026	.0019	.005	.14	.0042	.001	.001
%RSD	.6740	3.129	.2769	.9499	3.541	.0735	.0703

#1	3.893	.0637	1.719	15.18	.1146	1.201	1.159
#2	3.906	.0609	1.720	14.94	.1229	1.202	1.158
#3	3.856	.0600	1.727	14.93	.1175	1.203	1.160

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2455.7	7875.0	55351.	8191.5
Stddev	2.3	7.7	353.	6.0
%RSD	.09477	.09780	.63857	.07346

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Sample Name: MP30788-S1 Acquired: 9/2/2016 10:03:23 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0652	457.9	1.947	5.786	.0519	1204.	.0479	.6761	.9373	1.263
Stddev	.0018	1.2	.003	.005	.0004	8.	.0003	.0009	.0012	.006
%RSD	2.761	.2703	.1486	.0799	.8479	.6519	.5957	.1393	.1245	.4568
#1	.0666	456.8	1.947	5.782	.0523	1210.	.0477	.6768	.9386	1.258
#2	.0659	459.2	1.950	5.791	.0520	1195.	.0478	.6751	.9364	1.269
#3	.0632	457.7	1.944	5.784	.0514	1207.	.0482	.6765	.9371	1.262
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	526.4	50.53	213.0	10.76	.4626	45.15	1.492	.8470	.0705	1.948
Stddev	1.5	.34	.7	.05	.0016	.10	.003	.0029	.0012	.020
%RSD	.2825	.6729	.3334	.5023	.3376	.2209	.1954	.3401	1.648	1.021
#1	526.5	50.22	212.4	10.71	.4642	45.05	1.494	.8503	.0700	1.960
#2	527.9	50.89	213.8	10.74	.4611	45.25	1.489	.8448	.0718	1.925
#3	524.9	50.48	212.8	10.82	.4624	45.16	1.493	.8461	.0697	1.959
Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	3.006	.4758	2.757	17.44	2.026	1.937	1.634			
Stddev	.010	.0015	.011	.16	.010	.003	.002			
%RSD	.3296	.3112	.4077	.9287	.4858	.1273	.1176			
#1	3.006	.4741	2.754	17.54	2.018	1.936	1.636			
#2	2.996	.4768	2.769	17.52	2.022	1.936	1.632			
#3	3.016	.4766	2.748	17.25	2.036	1.940	1.634			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2385.4	7905.2	55607.	8248.3						
Stddev	7.4	14.9	75.	42.7						
%RSD	.30945	.18818	.13418	.51785						
#1	2386.0	7890.2	55620.	8230.8						
#2	2377.7	7905.6	55527.	8297.0						
#3	2392.4	7919.9	55675.	8217.2						

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Sample Name: MP30788-S2 Acquired: 9/2/2016 10:07:46 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0609	463.7	1.788	5.167	.0481	1084.	.0448	.6549	1.021	1.258
Stddev	.0012	1.9	.009	.016	.0005	22.	.0001	.0014	.002	.003
%RSD	1.959	.4104	.5285	.3162	.9858	2.075	.2138	.2163	.1667	.2393
#1	.0595	465.7	1.798	5.156	.0487	1107.	.0449	.6538	1.022	1.260
#2	.0616	461.9	1.779	5.160	.0478	1062.	.0447	.6543	1.020	1.254
#3	.0616	463.5	1.788	5.186	.0479	1082.	.0448	.6565	1.019	1.260
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	531.7	48.60	226.1	10.72	.4489	46.00	1.503	.8230	.0754	1.803
Stddev	1.5	.33	.5	.07	.0010	.10	.001	.0027	.0077	.007
%RSD	.2872	.6822	.2264	.6899	.2133	.2167	.0580	.3262	10.25	.3711
#1	532.8	48.96	226.5	10.72	.4478	46.12	1.502	.8199	.0666	1.795
#2	530.0	48.31	225.5	10.64	.4497	45.95	1.503	.8243	.0810	1.807
#3	532.4	48.54	226.2	10.79	.4491	45.94	1.504	.8248	.0787	1.807
Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	2.814	.4598	2.670	19.25	1.864	1.890	1.617			
Stddev	.009	.0007	.006	.17	.008	.003	.001			
%RSD	.3076	.1597	.2448	.8869	.4077	.1725	.0558			
#1	2.824	.4601	2.675	19.41	1.870	1.891	1.618			
#2	2.811	.4603	2.671	19.07	1.867	1.886	1.616			
#3	2.807	.4589	2.663	19.27	1.856	1.892	1.616			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2404.2	7917.4	55918.	8203.9						
Stddev	3.2	1.9	368.	138.4						
%RSD	.13482	.02370	.65799	1.6876						
#1	2403.0	7918.9	55541.	8111.8						
#2	2401.7	7918.0	56276.	8363.1						
#3	2407.9	7915.3	55936.	8136.8						

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Sample Name: C46963-2 Acquired: 9/2/2016 10:12:08 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0164	482.4	.1125	5.232	.0161	801.3	.0025	.2284	1.182	.7426
Stddev	.0011	1.7	.0052	.014	.0006	4.4	.0002	.0003	.001	.0011
%RSD	6.430	.3497	4.653	.2604	3.910	.5543	7.297	.1200	.1179	.1442
#1	.0172	482.3	.1149	5.240	.0155	802.9	.0023	.2286	1.183	.7419
#2	.0169	480.7	.1160	5.216	.0167	796.3	.0025	.2281	1.183	.7420
#3	.0152	484.1	.1065	5.240	.0162	804.8	.0027	.2283	1.181	.7438
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	607.4	33.76	237.5	10.47	.0111	17.90	1.037	.6311	-.0072	.0280
Stddev	1.7	.17	.3	.13	.0007	.10	.001	.0051	.0021	.0156
%RSD	.2721	.5081	.1382	1.259	6.126	.5536	.1224	.8004	29.53	55.93
#1	608.1	33.58	237.4	10.38	.0114	17.85	1.036	.6258	-.0078	.0300
#2	605.5	33.77	237.2	10.63	.0115	17.83	1.038	.6358	-.0048	.0425
#3	608.6	33.93	237.8	10.41	.0103	18.01	1.039	.6319	-.0089	.0114
Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	8.948	.0318	2.907	5.256	.0053	1.210	1.639			
Stddev	.034	.0012	.010	.041	.0062	.004	.002			
%RSD	.3820	3.926	.3371	.7702	117.5	.3488	.1187			
#1	8.949	.0328	2.905	5.232	.0012	1.214	1.641			
#2	8.981	.0304	2.898	5.303	.0023	1.212	1.638			
#3	8.913	.0321	2.917	5.235	.0125	1.206	1.638			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2422.9	8209.3	57957.	8451.2						
Stddev	3.1	10.5	389.	44.8						
%RSD	.12963	.12787	.67034	.52980						
#1	2424.2	8199.1	58098.	8400.7						
#2	2419.3	8208.9	57518.	8466.8						
#3	2425.1	8220.1	58255.	8486.1						

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Sample Name: C46963-3 Acquired: 9/2/2016 10:16:19 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0118	263.2	.1417	2.081	.0104	721.8	.0025	.1412	.8237	.5546
Stddev	.0011	.7	.0014	.002	.0003	2.1	.0001	.0003	.0025	.0013
%RSD	9.554	.2712	1.010	.1040	2.829	2.931	4.563	.2061	.3037	.2379
#1	.0105	263.4	.1426	2.081	.0102	722.1	.0025	.1413	.8213	.5545
#2	.0124	263.9	.1401	2.084	.0108	723.8	.0025	.1408	.8263	.5560
#3	.0125	262.5	.1424	2.079	.0103	719.6	.0027	.1414	.8237	.5533
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	504.1	14.58	160.7	5.546	.0271	24.86	1.083	.2146	-.0027	.0348
Stddev	1.9	.04	.2	.010	.0004	.12	.002	.0025	.0077	.0075
%RSD	.3682	.2982	.1425	.1875	1.648	4.964	.1938	1.160	286.5	21.63
#1	504.3	14.57	160.5	5.540	.0266	24.93	1.085	.2151	-.0086	.0289
#2	505.9	14.54	160.7	5.539	.0271	24.94	1.082	.2167	-.0054	.0432
#3	502.2	14.63	161.0	5.558	.0275	24.72	1.082	.2119	.0060	.0322
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	5.565	.0233	2.227	5.311	.0046	.9615	1.227			
Stddev	.030	.0008	.008	.006	.0018	.0011	.001			
%RSD	.5376	3.574	.3607	.1118	38.48	.1153	.0691			
#1	5.599	.0224	2.228	5.307	.0061	.9626	1.226			
#2	5.556	.0235	2.234	5.307	.0050	.9604	1.226			
#3	5.541	.0241	2.218	5.317	.0027	.9616	1.228			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2472.6	8002.7	56916	8234.3						
Stddev	12.5	31.8	97.	12.9						
%RSD	.50418	.39696	.17118	.15650						
#1	2486.6	8038.6	56960.	8229.5						
#2	2468.4	7991.4	56983.	8224.6						
#3	2462.8	7978.1	56804.	8248.9						

Sample Name: CCV Acquired: 9/2/2016 10:20:20 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2554	40.80	1.994	2.041	2.049	40.57	2.039	2.035	2.054	2.067
Stddev	.0012	.09	.003	.006	.007	.09	.001	.001	.007	.003
%RSD	.4769	.2297	.1423	.2865	.3365	.2301	.0596	.0275	.3258	.1374
#1	2540	40.70	1.995	2.047	2.042	40.46	2.038	2.034	2.058	2.070
#2	2562	40.84	1.996	2.035	2.050	40.63	2.040	2.035	2.046	2.066
#3	2561	40.87	1.991	2.041	2.055	40.62	2.040	2.035	2.057	2.065

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.85	40.53	39.83	2.088	2.028	41.20	2.061	2.029	2.033	2.051
Stddev	.09	.11	.15	.016	.001	.07	.001	.002	.005	.004
%RSD	.2234	.2704	.3695	.7748	.0416	.1793	.0661	.1020	.2618	.1881
#1	39.74	40.41	39.68	2.101	2.027	41.12	2.061	2.029	2.036	2.055
#2	39.91	40.61	39.98	2.070	2.028	41.24	2.060	2.028	2.035	2.047
#3	39.88	40.58	39.84	2.093	2.029	41.25	2.062	2.032	2.026	2.050

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.085	2.012	2.095	2.091	2.047	2.039	2.045
Stddev	.004	.001	.005	.001	.005	.003	.003
%RSD	.1745	.0262	.2417	.0639	.2316	.1358	.1342
#1	2.088	2.013	2.090	2.091	2.044	2.040	2.043
#2	2.085	2.012	2.095	2.092	2.045	2.037	2.045
#3	2.081	2.012	2.101	2.090	2.052	2.042	2.048

Check ? None Chk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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Sample Name: CCV Acquired: 9/2/2016 10:20:20 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2411.0	7378.9	52931.	7533.1
Stddev	8.1	15.4	101.	39.3
%RSD	.33706	.20893	.19096	.52143
#1	2416.7	7395.0	52861.	7548.9
#2	2414.7	7377.4	53047.	7488.4
#3	2401.7	7364.2	52885.	7562.1

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Sample Name: CCB Acquired: 9/2/2016 10:24:25 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0060	.0014	.0001	.0002	.0055	.0001	.0001	.0000
Stddev	.0003	.0037	.0003	.0002	.0000	.0009	.0000	.0001	.000
%RSD	141.4	62.23	22.80	189.8	6.233	16.23	33.06	147.5	496.2
#1	-.0005	.0051	.0017	.0002	.0002	.0046	.0001	.0001	.0001
#2	-.0000	.0028	.0012	-.0001	.0002	.0063	.0001	.0000	.0001
#3	-.0001	.0101	.0012	.0003	.0002	.0057	.0001	.0001	-.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0226	.0528	.0022	.0002	F.0020	.0345	.0003	.0003
Stddev	.0002	.0034	.0163	.0109	.0000	.0005	.0037	.0002	.0004
%RSD	111.1	15.10	30.85	484.8	7.500	24.30	10.73	54.80	149.9
#1	.0000	.0263	.0716	.0094	.0002	.0025	.0304	.0002	-.0002
#2	.0001	.0221	.0422	-.0103	.0002	.0019	.0354	.0003	.0003
#3	.0004	.0195	.0447	.0076	.0002	.0016	.0377	.0005	.0006

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0007	.0007	.0001	.0002	.0011	.0001	.0002	.0000
Stddev	.0011	.0013	.0003	.0002	.0001	.0000	.0003	.0004	.000
%RSD	2551.	190.3	40.04	221.2	39.76	2.881	180.8	157.6	122.3
#1	.0000	.0008	.0007	-.0001	.0001	.0011	.0000	.0002	.0000
#2	-.0010	-.0007	.0004	.0003	.0003	.0012	.0004	.0006	.0000
#3	.0012	.0019	.0010	.0001	.0002	.0012	.0000	-.0001	-.0001

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCB Acquired: 9/2/2016 10:24:25 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2694.4	7636.7	54298.	7579.7
Stddev	5.0	15.0	93.	93.9
%RSD	.18513	.19704	.17180	1.2394
#1	2693.6	7628.3	54306.	7494.5
#2	2689.8	7654.1	54202.	7680.4
#3	2699.7	7627.7	54388.	7564.3

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Sample Name: C46963-4 Acquired: 9/2/2016 10:28:35 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0071	334.3	.0588	2.259	.0117	217.3	.0034	.1674	.9113	.4722
Stddev	.0022	.8	.0018	.005	.0002	.6	.0001	.0010	.0018	.0001
%RSD	30.78	.2262	2.996	.2071	2.084	.2699	4.406	.6031	.1937	.0285

#1	.0045	333.4	.0596	2.255	.0120	216.7	.0035	.1685	.9111	.4721
#2	.0083	334.5	.0568	2.259	.0116	217.6	.0032	.1666	.9096	.4721
#3	.0084	334.9	.0600	2.264	.0116	217.7	.0035	.1670	.9131	.4724

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	510.1	38.06	181.3	6.301	.0132	204.8	.8443	.2425	-.0100	.0216
Stddev	1.6	.11	.7	.030	.0015	.2	.0021	.0016	.0007	.0050
%RSD	.3041	.2874	.4113	.4701	11.52	.1030	.2510	.6506	7.017	23.04

#1	508.4	37.94	180.8	6.330	.0150	204.6	.8468	.2416	-.0095	.0220
#2	510.4	38.15	182.2	6.271	.0123	204.8	.8429	.2443	-.0098	.0164
#3	511.4	38.10	180.9	6.303	.0124	205.0	.8434	.2416	-.0108	.0263

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	7.427	.0245	1.008	6.693	.0049	.6842	1.505
Stddev	.053	.0005	.003	.017	.0043	.0015	.002
%RSD	.7199	1.852	.3138	.2599	86.83	.2149	.1108

#1	7.434	.0247	1.007	6.711	.0098	.6846	1.503
#2	7.476	.0249	1.005	6.677	.0035	.6825	1.505
#3	7.370	.0240	1.012	6.692	.0015	.6853	1.507

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2457.7	8194.3	58121.	8326.8
Stddev	2.7	30.4	351.	60.0
%RSD	.11133	.37151	.60311	.72090

#1	2460.4	8222.8	57951.	8371.6
#2	2457.8	8198.0	58524.	8258.6
#3	2454.9	8162.2	57888.	8350.1

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Sample Name: C46963-5 Acquired: 9/2/2016 10:32:36 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0142	325.4	.1859	2.758	.0150	492.9	.0162	.2830	1.062	.4808
Stddev	.0015	1.4	.0026	.002	.0002	2.4	.0001	.0011	.007	.0009
%RSD	10.41	.4241	1.409	.0727	1.324	.4881	.9251	.3967	.7080	.1902

#1	.0146	325.9	.1829	2.760	.0152	493.7	.0160	.2818	1.054	.4801
#2	.0125	323.8	.1874	2.757	.0148	490.2	.0163	.2830	1.068	.4818
#3	.0154	326.4	.1875	2.757	.0150	494.8	.0163	.2841	1.064	.4804

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	580.3	16.56	172.6	11.74	.0386	156.8	1.093	.3524	.0020	.0156
Stddev	3.0	.12	.7	.05	.0004	.6	.004	.0036	.0071	.0104
%RSD	.5138	.7084	.3772	.3856	.9082	.3731	.3690	1.035	357.2	66.69

#1	580.1	16.69	172.5	11.70	.0383	157.2	1.093	.3494	.0031	.0087
#2	577.5	16.54	172.0	11.79	.0389	156.1	1.089	.3513	.0085	.0276
#3	583.4	16.45	172.2	11.74	.0384	157.0	1.097	.3565	-.0056	.0106

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	3.022	.0218	1.282	7.175	.0103	1.154	1.239
Stddev	.031	.0010	.006	.036	.0036	.005	.004
%RSD	1.015	4.769	.4719	.5012	34.88	.4148	.3504

#1	3.046	.0229	1.286	7.149	.0064	1.149	1.234
#2	3.031	.0215	1.275	7.216	.0109	1.159	1.239
#3	2.987	.0209	1.286	7.160	.0135	1.155	1.243

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2434.5	8376.3	59265.	8494.0
Stddev	6.1	16.7	183.	97.3
%RSD	.25162	.19981	.30940	1.1458

#1	2441.6	8387.6	59466.	8476.1
#2	2430.5	8384.1	59108.	8599.0
#3	2431.6	8357.0	59220.	8406.9

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Sample Name: C46963-6 Acquired: 9/2/2016 10:36:44 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0081	221.2	.1835	5.462	.0097	166.4	.0028	.1463	.8996	.5822
Stddev	.0023	.6	.0032	.006	.0001	.4	.0001	.0005	.0046	.0024
%RSD	28.73	.2651	1.736	.1034	1.544	.2143	4.104	.3195	.5131	.4041

#1	.0057	221.6	.1838	5.465	.0095	166.8	.0029	.1463	.9048	.5798
#2	.0103	220.5	.1801	5.456	.0098	166.1	.0027	.1458	.8961	.5845
#3	.0081	221.6	.1865	5.465	.0098	166.3	.0028	.1467	.8978	.5824

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	476.8	24.63	155.8	4.070	.0521	190.4	.9642	.2053	-.0034	.0266
Stddev	1.2	.26	.5	.018	.0005	.5	.0017	.0013	.0083	.0031
%RSD	.2486	1.038	.3454	.4464	1.035	.2413	.1788	.6159	246.0	11.62

#1	478.1	24.70	156.5	4.080	.0524	190.8	.9650	.2066	-.0067	.0245
#2	475.8	24.34	155.5	4.082	.0515	189.9	.9623	.2054	-.0096	.0251
#3	476.5	24.84	155.6	4.049	.0524	190.6	.9655	.2041	.0061	.0301

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	5.795	.0259	1.047	5.310	.0030	.7866	1.335
Stddev	.016	.0002	.001	.034	.0009	.0012	.002
%RSD	.2669	.8793	.1176	.6304	29.61	.1533	.1318

#1	5.797	.0261	1.049	5.312	.0023	.7866	1.334
#2	5.810	.0260	1.046	5.342	.0027	.7877	1.334
#3	5.779	.0256	1.047	5.275	.0040	.7853	1.337

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2489.8	8026.6	56951.	8159.6
Stddev	3.6	9.6	155.	69.6
%RSD	.14313	.11946	.27149	.85359

#1	2486.5	8037.5	56790.	8081.5
#2	2493.5	8022.6	57098.	8215.5
#3	2489.2	8019.7	56967.	8181.7

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Sample Name: C46963-8 Acquired: 9/2/2016 10:40:46 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0154	386.9	.0490	2.232	.0011	663.8	.0015	.1815	.5701	.8166
Stddev	.0018	.3	.0052	.007	.0003	.6	.0002	.0005	.0010	.0024
%RSD	11.86	.0650	10.56	.2972	24.11	.0840	12.60	.2552	.1798	.2988

#1	.0154	387.1	.0546	2.225	.0011	663.7	-.0013	.1815	.5691	.8146
#2	.0173	387.0	.0478	2.238	.0014	664.4	-.0015	.1810	.5701	.8193
#3	.0136	386.6	.0445	2.234	.0009	663.3	-.0017	.1819	.5711	.8158

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	422.9	24.09	163.2	7.726	.0104	25.05	.6302	.2272	-.0007	.0239
Stddev	.9	.05	.5	.011	.0009	.01	.0013	.0063	.0036	.0039
%RSD	.2144	.2183	.2864	.1471	8.672	.0315	.2117	2.772	498.8	16.41

#1	421.9	24.13	162.7	7.713	.0098	25.04	.6297	.2221	.0034	.0233
#2	423.1	24.09	163.7	7.733	.0115	25.05	.6317	.2342	-.0029	.0204
#3	423.7	24.03	163.1	7.733	.0100	25.05	.6292	.2252	-.0026	.0282

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	3.602	.0215	1.591	14.18	.0199	1.221	.8817
Stddev	.011	.0011	.001	.02	.0022	.001	.0006
%RSD	.3140	5.039	.0396	.1456	11.10	.0630	.0694

#1	3.597	.0222	1.591	14.16	.0221	1.220	.8824
#2	3.615	.0203	1.592	14.20	.0201	1.222	.8813
#3	3.594	.0222	1.590	14.18	.0177	1.221	.8814

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2469.7	7842.2	55112.	8032.3
Stddev	5.6	9.8	73.	26.9
%RSD	.22478	.12452	.13266	.33459</

◀ Zoom In ▶
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Sample Name: C46963-9 Acquired: 9/2/2016 10:44:47 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0141	445.7	.1146	5.289	.0184	178.8	.0017	.2539	1.029	.7070
Stddev	.0007	.3	.0064	.014	.0002	.1	.0002	.0009	.004	.0024
%RSD	5.025	.0781	5.627	.2685	1.199	.0661	12.63	.3640	.3648	.3447

#1	.0133	446.1	.1218	5.296	.0183	178.7	.0016	.2545	1.033	.7067
#2	.0143	445.6	.1093	5.273	.0183	179.0	.0016	.2528	1.027	.7095
#3	.0147	445.5	.1126	5.299	.0187	178.8	.0020	.2543	1.027	.7047

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	561.4	29.72	249.8	12.30	.0115	84.83	1.032	.3359	-.0059	-.0188
Stddev	.4	.11	.6	.09	.0001	.09	.002	.0026	.0027	.0086
%RSD	.0774	.3850	.2246	.7597	1.084	.1009	.2192	.7843	45.80	45.57

#1	561.3	29.60	249.5	12.19	.0114	84.76	1.029	.3364	-.0086	.0267
#2	561.9	29.71	249.4	12.36	.0116	84.80	1.033	.3382	-.0060	.0097
#3	561.1	29.83	250.4	12.34	.0115	84.93	1.034	.3330	-.0032	.0202

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.480	.0281	2.380	2.013	.0087	9388	1.555
Stddev	.023	.0017	.001	.004	.0043	.0006	.004
%RSD	.9173	5.932	.0282	.1858	49.24	.0675	.2274

#1	2.494	.0276	2.379	2.014	.0112	9395	1.557
#2	2.493	.0267	2.380	2.016	.0038	9386	1.551
#3	2.454	.0299	2.381	2.009	.0112	9383	1.557

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2477.8	8209.6	58208.	8347.5
Stddev	2.0	17.1	320.	12.8
%RSD	.08203	.20889	.54949	.15304

#1	2478.5	8199.6	57965.	8346.2
#2	2479.3	8229.4	58570.	8360.9
#3	2475.5	8199.8	58088.	8335.5

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Sample Name: C46963-11 Acquired: 9/2/2016 10:53:06 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0121	297.0	.1274	1.916	.0111	48.34	.0037	.1719	.8149	.4868
Stddev	.0025	1.3	.0032	.003	.0001	.22	.0002	.0007	.0065	.0020
%RSD	20.84	.4247	2.483	.1750	1.203	.4526	4.421	.3789	.7917	.4074

#1	.0129	296.2	.1245	1.917	.0110	48.28	.0039	.1719	.8187	.4886
#2	.0141	296.4	.1308	1.912	.0111	48.16	.0037	.1713	.8184	.4847
#3	.0093	298.5	.1268	1.918	.0113	48.59	.0035	.1726	.8074	.4871

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	502.2	37.16	123.9	7.128	.0307	121.5	.6095	.2548	-.0094	.0159
Stddev	1.8	.25	.6	.021	.0001	.4	.0014	.0025	.0022	.0022
%RSD	.3641	.6814	.5086	.2883	.3750	.2931	.2225	.9690	23.82	14.11

#1	501.5	36.87	123.6	7.139	.0308	121.2	.6082	.2522	-.0109	.0137
#2	500.9	37.26	123.4	7.141	.0306	121.4	.6094	.2550	-.0104	.0158
#3	504.3	37.35	124.6	7.104	.0307	121.9	.6109	.2572	-.0068	.0182

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	1.668	.0617	.5626	6.025	.0055	8306	1.409
Stddev	.009	.0012	.0037	.006	.0068	.0007	.003
%RSD	.5227	1.946	.6605	.0948	124.4	.0893	.1901

#1	1.665	.0625	.5622	6.025	.0104	8312	1.408
#2	1.678	.0603	.5591	6.030	.0083	8309	1.407
#3	1.661	.0623	.5665	6.019	-.0023	8298	1.412

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2510.5	7943.5	56054.	7861.8
Stddev	6.0	19.0	157.	38.1
%RSD	.23756	.23861	.27956	.48500

#1	2510.6	7936.6	56005.	7885.9
#2	2516.4	7965.0	55927.	7881.8
#3	2504.4	7929.0	56229.	7817.9

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Sample Name: C46963-10 Acquired: 9/2/2016 10:48:58 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0168	400.0	.1948	3.686	.0162	338.6	.0021	.3063	1.222	.8893
Stddev	.0018	.8	.0023	.010	.0002	.8	.0003	.0006	.004	.0019
%RSD	10.95	.2022	1.191	.2599	1.544	.2217	15.28	.1975	.3626	.2145

#1	.0156	400.8	.1939	3.680	.0163	339.5	.0017	.3067	1.219	.8905
#2	.0159	399.2	.1974	3.697	.0163	338.2	.0023	.3065	1.219	.8871
#3	.0189	399.9	.1931	3.680	.0159	338.2	.0023	.3056	1.227	.8903

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	762.5	24.07	221.9	18.72	.0582	27.57	1.577	.3474	-.0079	.0222
Stddev	1.5	.03	.8	.13	.0014	.04	.001	.0033	.0040	.0067
%RSD	.1964	.1328	.3395	.6946	2.428	.1497	.0396	.9374	51.31	30.08

#1	763.0	24.04	222.8	18.61	.0577	27.62	1.577	.3468	-.0035	.0299
#2	763.7	24.10	221.4	18.70	.0570	27.54	1.577	.3509	-.0115	.0191
#3	760.8	24.09	221.5	18.86	.0598	27.57	1.576	.3445	-.0087	.0176

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	3.041	.0386	1.359	6.197	.0148	1.286	2.000
Stddev	.022	.0013	.001	.008	.0024	.002	.004
%RSD	.7176	3.476	.0871	.1251	15.92	.1553	.2016

#1	3.066	.0374	1.360	6.200	.0175	1.287	1.996
#2	3.033	.0385	1.358	6.203	.0133	1.288	2.000
#3	3.025	.0400	1.359	6.188	.0136	1.284	2.004

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2458.4	8229.4	58288.	8273.3
Stddev	7.9	19.8	68.	85.4
%RSD	.32077	.24033	.11662	1.0321

#1	2464.5	8251.2	58244.	8209.2
#2	2461.2	8224.4	58254.	8240.5
#3	2449.5	8212.6	58366.	8370.2

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Sample Name: C46963-12 Acquired: 9/2/2016 10:57:08 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0182	375.2	.2208	6.901	.0225	117.0	.0103	.3466	.7320
Stddev	.0018	.6	.0052	.031	.0002	.1	.0003	.0003	.0028
%RSD	9.987	.1572	2.363	.4503	.8267	.0679	2.600	.0858	.3849

#1	.0203	375.1	.2197	6.892	.0225	117.0	.0105	.3462	.7308
#2	.0171	375.8	.2265	6.935	.0227	117.0	.0104	.3467	.7300
#3	.0172	374.6	.2163	6.875	.0223	116.9	.0100	.3468	.7353

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.8894	703.4	34.77	189.9	F34.17	.2034	226.6	1.259	.4409
Stddev	.0040	1.9	.17	.3	.11	.0006	.3	.002	.0018
%RSD	.4462	.2741	.4803	.1621	.3166	.2981	.1442	.1406	.4090

#1	.8889	703.3	34.64	189.7	34.05	.2038	226.7	1.257	.4424
#2	.8857	705.4	34.71	189.8	34.20	.2036	226.9	1.260	.4389
#3	.8935	701.6	34.96	190.3	34.26	.2027	226.2	1.259	.4415

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-.0070	.0329	3.607	.0335	1.380	1.465	.0248	1.224	2.858
Stddev	.0033	.0095	.024	.0009	.001	.007	.0027	.003	.004
%RSD	47.73	28.94	.6651	2.794	.0801	.4559	10.80	.2690	.1239

#1	-.0031	.0335	3.633	.0345	1.381	1.461	.0242	1.222	2.855
#2	-.0090	.0421	3.603	.0334	1.381	1.462	.0224	1.223	2.858
#3	-.0089	.0231	3.586	.0326	1.379	1.473	.0277	1.228	2.862

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2440.8	8366.1	58390.	8324.4
Stddev	3.5	17.1	263.	29.4
%RSD	.14286	.20495	.45019	.35263

Sample Name: C46963-13 Acquired: 9/2/2016 11:01:18 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0132	307.5	.1651	8.807	.0158	128.9	.0088	.2891	1.024	.7630
Stddev	.0011	.4	.0046	.009	.0004	.3	.0002	.0008	.001	.0004
%RSD	8.326	.1368	2.763	.0977	2.735	.2533	2.272	.2775	.1184	.0503

#1	.0130	307.2	.1693	8.812	.0161	128.7	.0090	.2900	1.024	.7635
#2	.0122	308.0	.1657	8.812	.0160	129.3	.0088	.2889	1.024	.7627
#3	.0144	307.4	.1603	8.797	.0153	128.8	.0086	.2885	1.026	.7629

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	617.9	39.93	173.8	16.95	.0584	195.8	1.386	.3246	-.0062	-.0220
Stddev	1.4	.03	.4	.14	.0013	.2	.004	.0053	.0058	.0047
%RSD	.2256	.0678	.2382	.8252	2.231	.1115	.2832	1.622	92.87	21.43

#1	616.6	39.95	173.7	16.79	.0573	195.7	1.391	.3185	-.0004	.0274
#2	619.4	39.90	174.3	17.04	.0599	196.0	1.384	.3276	-.0099	.0188
#3	617.8	39.92	173.5	17.02	.0580	195.6	1.384	.3276	-.0091	.0198

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	3.273	.0331	1.296	2.409	.0077	.8874	1.893
Stddev	.024	.0003	.002	.003	.0028	.0009	.001
%RSD	.7177	1.040	.1411	.1204	36.24	.1023	.0316

#1	3.296	.0333	1.294	2.410	.0097	.8882	1.893
#2	3.249	.0327	1.297	2.411	.0045	.8864	1.894
#3	3.273	.0332	1.297	2.406	.0090	.8875	1.893

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2454.8	8580.6	60060.	8505.3
Stddev	9.0	8.9	391.	36.5
%RSD	.36626	.10351	.65181	.42884

#1	2456.6	8581.3	60495.	8523.7
#2	2462.7	8571.3	59946.	8463.2
#3	2445.0	8589.0	59738.	8528.8

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Sample Name: CCV Acquired: 9/2/2016 11:09:31 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2536	41.17	1.969	2.053	2.065	40.75	2.044	2.043	2.071	2.106
Stddev	.0006	.10	.001	.004	.004	.05	.004	.002	.003	.003
%RSD	.2309	.2472	.0502	.1818	.1981	.1260	.1755	.1170	.1448	.1565

#1	2531	41.06	1.967	2.057	2.063	40.70	2.041	2.041	2.069	2.103
#2	2535	41.25	1.969	2.051	2.069	40.80	2.044	2.042	2.070	2.104
#3	2542	41.21	1.969	2.050	2.062	40.74	2.048	2.046	2.075	2.109

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Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.12	40.80	39.51	2.121	2.043	41.76	2.091	2.050	2.055	2.078
Stddev	.08	.14	.04	.013	.003	.03	.001	.004	.001	.004
%RSD	.1922	.3359	.1107	.6297	.1447	.0768	.0397	.1721	.0243	.2064

#1	40.11	40.74	39.52	2.107	2.041	41.72	2.091	2.046	2.055	2.081
#2	40.20	40.71	39.47	2.123	2.042	41.79	2.090	2.052	2.056	2.073
#3	40.04	40.96	39.56	2.133	2.047	41.76	2.092	2.053	2.055	2.080

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.112	2.005	2.128	2.122	2.072	2.048	2.059
Stddev	.003	.003	.005	.002	.002	.006	.004
%RSD	.1547	.1461	.2410	.0796	.0959	.2879	.1900

#1	2.112	2.003	2.125	2.123	2.074	2.047	2.055
#2	2.108	2.003	2.134	2.120	2.070	2.042	2.059
#3	2.115	2.008	2.126	2.122	2.073	2.054	2.063

Check ?
Value
Range
None Chk PassChk PassChk PassChk PassChk PassChk Pass

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Sample Name: C46963-14 Acquired: 9/2/2016 11:05:27 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0191	447.4	.0356	2.164	.0006	868.1	.0000	.1708	.4225	1.183
Stddev	.0009	.4	.0018	.011	.0001	.7	.000	.0006	.0020	.001
%RSD	4.541	.0837	5.038	.5248	19.84	.0760	561.2	.3360	.4837	.1185

#1	.0187	447.7	.0375	2.173	.0007	868.4	.0000	.1705	.4202	1.182
#2	.0186	447.0	.0354	2.168	.0006	867.3	.0001	.1704	.4237	1.185
#3	.0201	447.5	.0339	2.151	.0005	868.5	-.0002	.1714	.4237	1.182

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	421.8	27.92	155.0	7.733	.0080	31.10	.5742	.1740	-.0071	.0161
Stddev	.2	.19	.6	.009	.0007	.03	.0007	.0004	.0115	.0123
%RSD	.0502	.6762	.4062	.1131	8.827	.1011	.1255	.2305	161.8	76.21

#1	421.8	27.72	155.2	7.725	.0076	31.12	.5742	.1745	-.0181	.0155
#2	421.6	27.94	154.3	7.731	.0076	31.06	.5735	.1738	.0048	.0041
#3	422.0	28.09	155.6	7.742	.0088	31.11	.5750	.1738	-.0081	.0287

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.251	.0171	1.876	12.01	.0138	1.325	.8712
Stddev	.002	.0006	.001	.01	.0012	.005	.0007
%RSD	.0983	3.328	.0442	.0789	8.613	.3515	.0845

#1	2.253	.0166	1.876	12.01	.0131	1.319	.8720
#2	2.249	.0171	1.875	12.01	.0152	1.327	.8707
#3	2.252	.0177	1.877	12.02	.0132	1.327	.8709

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2436.8	7854.3	54538.	7878.6
Stddev	8.2	15.4	194.	64.1
%RSD	.33516	.19561	.35491	.81383

#1	2428.0	7838.2	54756.	7872.6
#2	2438.3	7868.8	54386.	7945.5
#3	2444.2	7855.8	54473.	7817.7

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Sample Name: CCV Acquired: 9/2/2016 11:09:31 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2401.4	7383.7	52597.	7375.2
Stddev	4.1	14.5	175.	30.5
%RSD	.17202	.19594	.33344	.41400

#1	2405.4	7399.6	52711.	7403.9
#2	2397.1	7379.9	52684.	7378.7
#3	2401.6	7371.5	52395.	7343.1

Sample Name: CCB Acquired: 9/2/2016 11:13:36 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0088	.0010	-.0002	.0002	.0070	.0001	.0001	.0002
Stddev	.000	.0045	.0010	.0000	.0001	.0008	.0000	.0001	.0001
%RSD	7626.	50.73	106.7	23.85	75.10	11.69	16.99	86.41	41.25
#1	-.0001	.0118	.0019	-.0001	.0000	.0065	.0001	.0002	.0001
#2	-.0001	.0037	-.0001	-.0001	.0003	.0080	.0001	.0001	.0002
#3	.0002	.0110	.0012	-.0002	.0002	.0066	.0001	.0001	.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0192	.0362	.0035	.0002	F .0020	.0391	.0000	-.0001
Stddev	.0004	.0024	.0200	.0032	.0000	.0006	.0039	.000	.0005
%RSD	126.8	12.51	55.32	91.32	15.14	27.97	9.904	159.5	325.5
#1	.0001	.0215	.0362	.0014	.0002	.0025	.0370	.0000	.0001
#2	.0001	.0195	.0563	.0072	.0002	.0021	.0367	-.0001	.0002
#3	.0007	.0167	.0162	.0020	.0001	.0014	.0435	.0000	-.0007

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
High Limit .0010
Low Limit -.0010

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0004	.0004	.0000	.0001	.0009	.0005	.0001	.0000
Stddev	.0011	.0004	.0004	.0001	.0000	.0001	.0002	.0000	.000
%RSD	654.6	96.79	92.78	173.8	9.751	15.46	50.65	28.25	44.68
#1	.0014	.0000	.0003	.0000	.0001	.0008	.0006	.0001	.0000
#2	-.0004	-.0006	.0008	.0001	.0001	.0011	.0007	.0001	.0000
#3	-.0005	-.0007	.0001	.0000	.0001	.0009	.0002	.0002	.0000

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCB Acquired: 9/2/2016 11:13:36 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2684.2	7658.3	53983.	7373.9
Stddev	5.8	13.6	60.	45.1
%RSD	.21489	.17728	.11195	.61162
#1	2690.4	7672.7	54043.	7322.9
#2	2679.0	7645.7	53922.	7390.5
#3	2683.2	7656.7	53983.	7408.4

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Sample Name: C46963-15 Acquired: 9/2/2016 11:17:46 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0183	503.7	.1150	5.444	.0192	156.5	.0030	.2791	1.190	.7767
Stddev	.0028	1.0	.0033	.021	.0006	.4	.0004	.0010	.006	.0018
%RSD	15.25	.2079	2.902	.3884	3.163	.2663	14.21	.3478	.4815	.2365
#1	.0211	504.9	.1187	5.426	.0191	156.9	.0025	.2787	1.188	.7746
#2	.0183	503.0	.1139	5.468	.0198	156.1	.0032	.2802	1.185	.7780
#3	.0155	503.3	.1123	5.438	.0186	156.4	.0034	.2784	1.196	.7775

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	606.2	32.69	185.2	9.162	.0173	41.94	1.070	.4933	-.0099	.0256
Stddev	1.3	.08	.2	.086	.0006	.03	.002	.0055	.0027	.0082
%RSD	.2074	.2517	.1226	.9337	3.345	.0685	.1638	1.111	27.21	32.23
#1	607.7	32.78	185.3	9.185	.0180	41.96	1.070	.4911	-.0068	.0343
#2	605.3	32.61	185.2	9.234	.0170	41.90	1.069	.4995	-.0111	.0246
#3	605.8	32.69	184.9	9.067	.0169	41.95	1.072	.4892	-.0117	.0179

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	8.981	.0319	1.782	4.114	.0037	1.280	1.643
Stddev	.067	.0020	.005	.012	.0044	.003	.002
%RSD	.7442	6.322	.2774	.2997	118.4	.2484	.1189
#1	9.043	.0340	1.788	4.121	.0073	1.277	1.643
#2	8.989	.0299	1.779	4.122	.0051	1.283	1.644
#3	8.910	.0318	1.779	4.100	-.0012	1.279	1.641

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2471.3	8546.7	59904.	8466.7
Stddev	5.5	16.1	162.	58.2
%RSD	.22259	.18846	.27063	.68783
#1	2475.9	8550.6	59758.	8419.1
#2	2465.2	8529.0	59875.	8531.7
#3	2472.8	8560.5	60078.	8449.4

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Sample Name: C46963-16 Acquired: 9/2/2016 11:21:56 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_3600)
Avg	.0127	304.0	.1220	3.411	.0125	715.8	.0010	.2587	1.004	.5506
Stddev	.0021	.4	.0015	.003	.0002	.3	.0004	.0006	.003	.0018
%RSD	16.96	.1319	1.245	.0972	1.487	.0369	33.64	.2488	.2745	.3281
#1	.0149	304.4	.1206	3.410	.0124	716.1	.0012	.2582	1.006	.5512
#2	.0107	303.6	.1217	3.414	.0127	715.6	.0006	.2584	1.001	.5521
#3	.0124	303.9	.1236	3.408	.0125	715.7	.0013	.2594	1.004	.5486

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	572.5	16.23	187.7	14.87	.0329	28.24	1.389	.2345	-.0104	.0276
Stddev	.3	.10	.9	.08	.0011	.07	.002	.0017	.0030	.0101
%RSD	.0539	.5939	.4784	.5232	3.255	.2419	.1418	.7261	28.73	36.45
#1	572.9	16.31	187.1	14.96	.0334	28.25	1.391	.2360	-.0069	.0377
#2	572.2	16.13	188.8	14.84	.0335	28.17	1.387	.2327	-.0120	.0176
#3	572.5	16.27	187.3	14.81	.0316	28.31	1.390	.2349	-.0122	.0274

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	4.065	.0975	2.506	5.903	.0145	.9018	1.258
Stddev	.016	.0013	.010	.014	.0057	.0005	.002
%RSD	.4012	1.285	.4012	.2374	39.45	.0507	.1540
#1	4.078	.0972	2.517	5.916	.0147	.9022	1.258
#2	4.069	.0988	2.500	5.903	.0200	.9020	1.256
#3	4.046	.0964	2.500	5.888	.0086	.9013	1.260

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2427.9	8078.7	56936.	8022.2
Stddev	5.4	18.5	233.	74.4
%RSD	.22351	.22915	.40969	.92769
#1	2423.7	8083.0	56736.	8107.0
#2	2434.0	8094.7	56880.	7967.8
#3	2425.9	8058.4	57192.	7991.8

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Sample Name: C46963-17 Acquired: 9/2/2016 11:26:05 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0253	325.4	.1587	12.14	.0135	47.20	.0125	.4747	.9513
Stddev	.0020	.2	.0004	.02	.0002	.08	.0001	.0002	.0031
%RSD	8.071	.0762	.2552	.1828	1.744	.1725	1.196	.0523	.3290
#1	.0273	325.2	.1583	12.16	.0134	47.16	.0126	.4747	.9482
#2	.0254	325.4	.1591	12.12	.0137	47.30	.0125	.4744	.9512
#3	.0232	325.7	.1588	12.14	.0133	47.15	.0123	.4749	.9545
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.8164	560.5	39.42	131.5	F89.55	.1190	142.0	1.771	.3081
Stddev	.0032	.5	.20	.6	.45	.0008	.1	.002	.0032
%RSD	.3886	.0891	.5163	.4599	.4988	.6358	.0533	.0999	1.023
#1	.8169	560.2	39.35	132.1	89.04	.1188	141.9	1.771	.3117
#2	.8194	561.1	39.27	131.5	89.72	.1184	142.0	1.773	.3064
#3	.8131	560.3	39.65	130.9	89.88	.1198	142.0	1.769	.3062
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-.0053	.0498	2.239	.0259	1.215	5.161	.0770	1.115	1.537
Stddev	.0022	.0031	.005	.0019	.003	.018	.0039	.003	.001
%RSD	42.42	6.249	.2326	7.452	.2092	.3588	5.115	.2455	.0817
#1	-.0078	.0479	2.337	.0274	1.212	5.152	.0725	1.112	1.536
#2	-.0046	.0481	2.345	.0266	1.216	5.149	.0796	1.116	1.538
#3	-.0035	.0534	2.335	.0237	1.217	5.183	.0789	1.117	1.539
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	2489.3	7916.1	55357.	7812.3					
Stddev	2.2	9.7	302.	22.1					
%RSD	.08725	.12282	.54625	.28328					
#1	2488.5	7923.5	55705.	7803.0					
#2	2487.7	7919.6	55211.	7837.6					
#3	2491.8	7905.1	55156.	7796.4					

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Sample Name: C46963-18 Acquired: 9/2/2016 11:30:14 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0066	311.5	.0867	2.674	.0140	33.86	.0015	.1609	.8883	.5198
Stddev	.0017	.3	.0047	.011	.0001	.00	.0002	.0005	.0042	.0026
%RSD	26.00	.0998	5.479	.4217	.8556	.0137	13.35	.3072	.4706	.4984
#1	.0083	311.4	.0920	2.667	.0139	33.87	.0016	.1615	.8862	.5226
#2	.0049	311.2	.0851	2.669	.0139	33.86	.0017	.1607	.8931	.5175
#3	.0066	311.8	.0829	2.687	.0141	33.86	.0013	.1605	.8855	.5194
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	482.1	24.99	154.6	3.857	.0189	196.9	1.076	.1931	-.0115	.0140
Stddev	.2	.05	.6	.011	.0004	.3	.002	.0016	.0041	.0006
%RSD	.0397	.1855	.3883	.2859	1.917	.1380	.1644	.8316	35.37	4.148
#1	482.2	25.03	155.3	3.848	.0186	197.1	1.078	.1924	-.0153	.0139
#2	481.9	24.99	154.1	3.870	.0190	196.6	1.076	.1949	-.0072	.0134
#3	482.2	24.94	154.5	3.854	.0193	196.9	1.075	.1919	-.0120	.0146
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	1.360	.0271	.7859	1.452	-.0001	.5701	1.513			
Stddev	.003	.0014	.0007	.006	.0034	.0017	.003			
%RSD	.2230	4.977	.0881	.3853	6011.	.2944	.2182			
#1	1.357	.0256	.7866	1.452	.0017	.5712	1.513			
#2	1.363	.0279	.7852	1.458	.0021	.5709	1.510			
#3	1.360	.0280	.7859	1.447	-.0039	.5682	1.516			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2505.7	8048.2	56469.	7894.5						
Stddev	.4	17.8	135.	35.9						
%RSD	.01407	.22125	.23886	.45504						
#1	2505.3	8041.2	56607.	7888.9						
#2	2506.0	8068.5	56338.	7861.8						
#3	2505.8	8035.0	56462.	7932.9						

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Sample Name: C46963-19 Acquired: 9/2/2016 11:34:17 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0108	331.5	.1519	3.579	.0160	129.1	.0060	.1897	1.012
Stddev	.0021	.6	.0027	.005	.0002	.3	.0003	.0003	.004
%RSD	19.36	.1895	1.783	.1486	1.518	.2605	4.255	.1564	.3413
#1	.0092	331.2	.1550	3.585	.0158	128.9	.0058	.1900	1.008
#2	.0132	331.0	.1501	3.575	.0159	129.0	.0058	.1897	1.015
#3	.0101	332.2	.1506	3.576	.0163	129.5	.0062	.1894	1.014
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.7004	569.9	30.56	202.3	F25.62	.0566	251.4	1.177	.2360
Stddev	.0033	.6	.04	.5	.22	.0009	.3	.001	.0046
%RSD	.4706	.1127	.1339	.2362	.8415	1.595	.1321	.0435	1.945
#1	.6990	569.7	30.59	201.7	25.40	.0555	251.5	1.177	.2310
#2	.7042	569.4	30.57	202.4	25.83	.0571	251.0	1.177	.2401
#3	.6981	570.6	30.51	202.7	25.64	.0570	251.6	1.178	.2369
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-.0129	.0224	1.708	.0281	1.183	1.553	.0168	.7433	1.847
Stddev	.0019	.0057	.004	.0002	.003	.005	.0019	.0006	.001
%RSD	14.90	25.58	.2203	.6204	.2219	.3145	11.19	.0861	.0675
#1	-.0139	.0176	1.704	.0282	1.183	1.549	.0188	.7440	1.848
#2	-.0107	.0208	1.710	.0279	1.180	1.558	.0167	.7430	1.846
#3	-.0141	.0288	1.710	.0282	1.185	1.551	.0150	.7429	1.848
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Avg	2452.9	8328.6	58622.	8328.9					
Stddev	3.5	11.5	330.	35.1					
%RSD	.14412	.13784	.56244	.42092					
#1	2449.7	8320.4	58977.	8354.5					
#2	2456.7	8341.7	58325.	8288.9					
#3	2452.2	8323.6	58565.	8343.1					

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Sample Name: C46963-21 Acquired: 9/2/2016 11:38:27 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0218	395.4	.0619	3.620	.0018	1046.	-.0001	.1807	.6545	.9304
Stddev	.0039	.6	.0004	.019	.0001	20.	.0004	.0010	.0017	.0022
%RSD	18.03	.1442	.6054	.5260	6.254	1.890	703.7	.5453	.2671	.2390
#1	.0256	395.5	.0616	3.637	.0017	1024.	.0003	.1815	.6533	.9318
#2	.0219	394.8	.0623	3.623	.0017	1063.	-.0004	.1810	.6537	.9279
#3	.0178	396.0	.0618	3.599	.0019	1050.	-.0001	.1796	.6565	.9317
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	435.7	20.60	169.2	8.130	.0216	30.22	.7208	.2655	-.0040	.0112
Stddev	1.0	.06	.9	.009	.0006	.04	.0036	.0033	.0019	.0139
%RSD	.2181	.3049	.5497	.1064	2.562	.1213	.5036	1.252	46.47	123.9
#1	436.2	20.63	168.2	8.120	.0220	30.25	.7247	.2666	-.0053	-.0038
#2	434.6	20.53	169.4	8.137	.0210	30.18	.7174	.2618	-.0048	.0236
#3	436.3	20.64	170.0	8.132	.0218	30.24	.7204	.2682	-.0019	.0138
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	1.669	.0185	1.971	14.08	.0154	1.400	.9728			
Stddev	.018	.0013	.007	.03	.0029	.003	.0021			
%RSD	1.083	7.226	.3792	.2025	18.88	.2133	.2182			
#1	1.690	.0194	1.978	14.04	.0173	1.402	.9753			
#2	1.661	.0170	1.963	14.09	.0168	1.396	.9715			
#3	1.657	.0193	1.972	14.09	.0121	1.401	.9718			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2421.2	7831.3	54896.	7880.8						
Stddev	4.5	14.5	121.	112.7						
%RSD	.18603	.18554	.21984	1.4305						
#1	2422.4	7814.5	54757.	8008.8						
#2	2416.2	7840.3	54976.	7837.4						
#3	2425.0	7839.1	54955.	7796.2						

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Zoom Out

Sample Name: C46963-22 Acquired: 9/2/2016 11:42:39 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0164	.516.5	.1292	4.040	.0221	.255.2	.0015	.2488	1.229	.8078
Stddev	.0021	1.1	.0004	.018	.0004	.6	.0003	.0006	.005	.0023
%RSD	12.69	.2050	.2996	.4434	1.624	.2290	20.59	.2456	.4011	.2866

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	.668.9	31.45	.238.8	9.746	.0198	121.3	1.161	.3658	-.0097	-.0244
Stddev	2.2	.13	.9	.064	.0009	.3	.001	.0045	.0059	.0108
%RSD	.3349	.4089	.3665	.6541	4.646	.2483	.0568	1.237	60.78	44.41

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.991	.0322	3.239	1.763	.0047	1.034	1.800
Stddev	.018	.0015	.009	.009	.0009	.002	.001
%RSD	.6162	4.795	.2887	.5352	19.85	.2365	.0456

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2452.4	8369.1	59368.	8387.4
Stddev	7.1	7.4	331.	32.7
%RSD	.28762	.08786	.55743	.39026

#1	2448.0	8374.2	59306.	8417.7
#2	2448.6	8360.7	59072.	8391.9
#3	2460.5	8372.4	59726.	8352.7

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Sample Name: DI CHECK Acquired: 9/2/2016 11:46:49 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2746.4	7681.1	54443.	7458.5
Stddev	2.2	4.8	107.	63.1
%RSD	.07969	.06314	.19598	.84575

#1	2746.0	7680.2	54557.	7529.7
#2	2744.4	7686.3	54427.	7409.6
#3	2748.7	7676.7	54346.	7436.2

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◀ Zoom In ▶
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Sample Name: DI CHECK Acquired: 9/2/2016 11:46:49 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0039	.0012	-.0002	.0000	.0102	.0000	.0002	-.0001	-.0004
Stddev	.0007	.0136	.0005	.0001	.0001	.0023	.0000	.0001	.0001	.0002
%RSD	177.4	348.6	45.03	75.29	585.2	22.78	137.6	82.52	59.07	51.88

#1	-.0012	.0109	.0006	-.0003	.0001	.0104	.0000	.0000	-.0002	-.0004
#2	-.0001	-.0117	.0015	-.0001	-.0001	.0125	.0000	.0003	-.0001	-.0002
#3	-.0001	.0125	.0015	-.0001	.0000	.0079	.0000	.0001	-.0001	-.0006

Check ?	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass
High Limit																
Low Limit																

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	.0493	-.0042	.0003	-.0001	.0222	-.0001	-.0002	-.0015	-.0009
Stddev	.0010	.0371	.0253	.0001	.0000	.0133	.0000	.0002	.0001	.0008
%RSD	88.25	75.30	607.9	26.53	64.96	59.71	58.44	90.13	4.160	86.76

#1	.0024	.0069	.0197	.0003	-.0001	.0283	-.0001	-.0004	-.0015	-.0018
#2	.0005	.0760	-.0014	.0002	.0000	.0070	.0000	.0000	-.0016	-.0007
#3	.0006	.0650	-.0307	.0003	-.0001	.0314	-.0001	-.0003	-.0015	-.0003

Check ?	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass
High Limit																
Low Limit																

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0004	.0001	.0000	.0017	.0001	.0000
Stddev	.0003	.0002	.0001	.0002	.0002	.0002	.000
%RSD	124.3	51.96	60.06	379.8	10.92	147.4	346.7

#1	.0003	-.0006	.0002	.0003	.0018	.0001	.0000
#2	-.0002	-.0004	.0000	-.0002	.0018	.0000	.0000
#3	.0000	-.0002	.0002	-.0001	.0015	.0003	-.0001

Check ?	None	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass
High Limit																	
Low Limit																	

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-.0012	.6949	-.0031	.9854	.0000	.661.8	-.0005	.0000	.0039
Stddev	.0004	.0198	.0013	.0057	.0003	11.9	.0001	.0002	.0006
%RSD	28.42	2.844	41.75	.5739	9044.	1.803	15.34	2011.	15.74

#1	-.0009	.7121	-.0017	.9889	.0003	.667.8	-.0004	.0000	.0032
#2	-.0016	.6992	-.0036	.9789	-.0002	.648.0	-.0005	-.0002	.0039
#3	-.0012	.6733	-.0041	.9883	-.0001	.669.5	-.0005	.0002	.0045

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0020	.0701	110.3	.0352	.0014	-.0001	71.84	.0002	-.0029
Stddev	.0004	.0083	.3	.0064	.0001	.0002	.19	.0004	.0014
%RSD	20.63	11.91	.2922	18.18	5.483	153.1	.2648	208.0	47.29

#1	.0019	.0794	110.2	.0307	.0015	.0001	71.80	.0006	-.0027
#2	.0017	.0632	110.1	.0426	.0014	-.0002	71.67	-.0002	-.0016
#3	.0025	.0677	110.7	.0324	.0013	-.0002	72.04	.0001	-.0043

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0034	-.0032	.2374	-.0005	F16.01	.0022	-.0003	.0006	.0548
Stddev	.0010	.0026	.0002	.0006	.33	.0000	.0014	.0003	.0001
%RSD	29.51	79.98	.0822	123.7	2.078	1.287	499.9	57.84	.2277

#1	.0030	-.0016	.2373	-.0011	16.21	.0022	.0008	.0010	.0549
#2	.0027	-.0062	.2377	.0000	15.63	.0022	-.0019	.0004	.0547
#3	.0046	-.0019	.2373	-.0003	16.19	.0022	.0003	.0004	.0549

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2363.5	7109.7	50820.	7333.5
Stddev	3.5	12.7	133.	102.4
%RSD	.14762	.17826	.26146	1.3967

#1	2365.6	7095.7	50677.	7333.8
#2	2359.5	7120.4	50844.	7435.7
#3	2365.5	7112.9	50940.	7230.9

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2363.5	7109.7	50820.	7333.5
Stddev	3.5	12.7	133.	102.4
%RSD	.14762	.17826	.26146	1.3967

#1	2365.6	7095.7	50677.	7333.8
#2	2359.5	7120.4	50844.	7435.7
#3	2365.5	7112.9	50940.	7230.9

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2363.5	7109.7	50820.	7333.5
Stddev	3.5	12.7	133.	102.4
%RSD	.14762	.17826	.26146	1.3967

#1	2365.6	7095.7	50677.	7333.8
#2	2359.5	7120.4	50844.	7435.7
#3	2365.5	7112.9	50940.	7230.9

7.2
7

Sample Name: MP30786-D1 Acquired: 9/2/2016 11:55:25 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	
Avg	-.0002	.7251	-.0010	1.001	.0001	681.5	-.0005	.0001	.0039
Stddev	.0009	.0119	.0027	.001	.0001	5.9	.0001	.0000	.0002
%RSD	390.4	1.635	263.9	.1425	84.33	.8670	21.23	65.18	4.185

#1	.0007	.7175	-.0037	.9993	.0001	677.2	-.0004	.0001	.0041
#2	-.0003	.7191	-.0011	1.000	.0001	688.2	-.0006	.0000	.0039
#3	-.0010	.7388	.0017	1.002	.0003	679.1	-.0004	.0001	.0038

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.0017	.0386	113.2	-.0224	.0013	.0000	73.42	.0004	-.0008
Stddev	.0004	.0048	.3	.0540	.0000	.0002	.03	.0001	.0005
%RSD	21.76	12.44	.2954	241.0	3.564	557.1	.0383	25.90	67.35

#1	.0016	.0441	113.6	.0267	.0013	-.0002	73.45	.0004	-.0003
#2	.0014	.0351	113.0	-.0803	.0014	.0001	73.41	.0006	-.0007
#3	.0021	.0366	113.0	-.0136	.0013	.0002	73.40	.0003	-.0014

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0046	-.0030	.2410	.0002	F16.11	.0024	-.0021	.0006	.0197
Stddev	.0016	.0021	.0008	.0003	.12	.0003	.0014	.0005	.0001
%RSD	34.17	71.24	.3504	157.3	.7556	14.10	66.85	80.10	.6555

#1	.0055	-.0051	.2405	.0004	16.25	.0021	-.0011	.0001	.0198
#2	.0028	-.0031	.2420	.0003	16.05	.0024	-.0015	.0010	.0196
#3	.0054	-.0008	.2406	-.0002	16.03	.0028	-.0037	.0008	.0198

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2364.1	7110.6	51178.	7229.5
Stddev	4.0	17.1	104.	73.8
%RSD	.16960	.24057	.20234	1.0211

#1	2360.7	7091.5	51111.	7184.5
#2	2368.5	7115.5	51297.	7189.2
#3	2363.1	7124.7	51126.	7314.7

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Sample Name: CCV Acquired: 9/2/2016 11:59:48 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2419.5	7339.1	52833.	7361.1
Stddev	6.4	13.8	400.	52.4
%RSD	.26400	.18836	.75667	.71159

#1	2419.7	7350.2	52450.	7395.4
#2	2413.0	7323.6	52801.	7387.0
#3	2425.8	7343.5	53248.	7300.8

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Sample Name: CCV Acquired: 9/2/2016 11:59:48 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2542	40.85	2.024	2.058	2.013	40.26	2.057	2.052	2.054	2.037
Stddev	.0004	.02	.003	.008	.004	.03	.004	.003	.007	.002
%RSD	.1471	.0597	.1355	.3686	.1885	.0716	.2033	.1354	.3395	.1156

#1	.2545	40.84	2.026	2.049	2.015	40.28	2.053	2.049	2.062	2.039
#2	.2538	40.88	2.021	2.063	2.015	40.27	2.060	2.054	2.053	2.034
#3	.2543	40.84	2.026	2.061	2.008	40.23	2.060	2.053	2.048	2.038

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.92	41.16	39.77	2.073	2.028	41.36	2.055	2.026	2.036	2.042
Stddev	.06	.02	.05	.021	.003	.03	.002	.004	.004	.001
%RSD	.1489	.0396	.1207	1.024	.1595	.0841	.1019	.1829	.2137	.0357

#1	38.87	41.17	39.80	2.092	2.024	41.33	2.056	2.024	2.035	2.042
#2	38.98	41.16	39.72	2.050	2.028	41.40	2.056	2.030	2.032	2.042
#3	38.92	41.14	39.80	2.077	2.031	41.36	2.052	2.024	2.040	2.041

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.079	2.044	2.087	2.065	2.045	2.049	2.062
Stddev	.004	.004	.003	.008	.003	.004	.002
%RSD	.1699	.1991	.1507	.3791	.1275	.1842	.0913

#1	2.075	2.040	2.087	2.070	2.042	2.053	2.060
#2	2.081	2.046	2.091	2.069	2.047	2.048	2.064
#3	2.081	2.047	2.084	2.056	2.045	2.046	2.062

Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

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Sample Name: CCB Acquired: 9/2/2016 12:03:53 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0013	.0007	-.0003	.0001	.0028	.0001	.0001	.0000
Stddev	.0010	.0105	.0006	.0002	.0001	.0001	.0001	.0001	.000
%RSD	16910.	818.2	86.03	66.85	48.76	90.08	77.67	108.8	1141.

#1	.0000	.0052	.0005	-.0004	.0002	.0057	.0001	.0002	-.0002
#2	-.0010	-.0134	.0014	-.0001	.0001	.0008	.0000	.0001	.0001
#3	.0010	.0043	.0003	-.0003	.0001	.0021	.0000	.0000	.0000

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0164	.0469	.0037	.0002	F.0022	.0446	.0001	.0000
Stddev	.0003	.0041	.0176	.0130	.0001	.0004	.0071	.0003	.001
%RSD	780.2	24.84	37.43	353.2	31.84	18.31	15.86	387.3	1279.

#1	-.0001	.0211	.0481	.0038	.0002	.0027	.0433	.0003	.0005
#2	.0004	.0149	.0638	.0166	.0002	.0022	.0523	.0001	-.0005
#3	-.0001	.0134	.0288	-.0094	.0001	.0019	.0384	-.0002	-.0002

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	-.0001	.0002	.0000	.0002	.0010	.0001	.0001	.0000
Stddev	.0009	.0009	.0004	.0001	.0001	.0001	.0004	.0001	.000
%RSD	127.0	1461.	209.7	338.6	22.44	11.24	689.0	49.88	56.52

#1	.0012	-.0010	.0007	.0000	.0002	.0011	.0001	.0001	.0000
#2	.0013	.0003	-.0001	-.0001	.0003	.0010	-.0003	.0002	-.0001
#3	-.0003	.0006	.0001	.0002	.0002	.0009	.0004	.0001	-.0001

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Sample Name: CCB Acquired: 9/2/2016 12:03:53 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2714.0	7593.5	55066.	7545.7
Stddev	4.9	12.3	365.	59.9
%RSD	.17881	.16216	.66325	.79355

#1	2713.6	7600.9	55115.	7477.8
#2	2709.4	7579.3	54679.	7590.7
#3	2719.1	7600.3	55404.	7568.7

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◀ Zoom In ▶
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Sample Name: MP30786-S2 Acquired: 9/2/2016 12:12:18 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0500	29.29	2.110	3.167	.0535	667.2	.0518	.5204	.2175
Stddev	.0013	.03	.005	.011	.0002	13.6	.0001	.0009	.0001
%RSD	2.545	.0980	.2616	.3466	.4270	2.034	.2159	.1658	.0327

#1	.0503	29.26	2.108	3.161	.0535	651.7	.0519	.5197	.2175
#2	.0486	29.32	2.105	3.179	.0533	676.8	.0517	.5200	.2176
#3	.0512	29.29	2.116	3.160	.0537	673.3	.0519	.5213	.2176

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.2737	27.07	133.6	24.77	.5497	.5369	96.46	.5281	.5246
Stddev	.0002	.02	.2	.06	.0032	.0013	.09	.0011	.0015
%RSD	.0903	.0576	.1648	.2583	.5812	.2499	.0969	.2092	.2943

#1	.2737	27.06	133.4	24.70	.5529	.5358	96.36	.5281	.5243
#2	.2740	27.09	133.6	24.81	.5496	.5365	96.54	.5271	.5263
#3	.2735	27.07	133.8	24.81	.5465	.5384	96.47	.5293	.5233

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.5404	2.167	.2406	.5227	F15.70	.5587	2.078	.5152	.5392
Stddev	.0015	.011	.0016	.0018	.39	.0001	.007	.0014	.0009
%RSD	.2759	.4875	.6808	.3487	2.491	.0242	.3633	.2671	.1664

#1	.5408	2.167	.2418	.5238	15.26	.5588	2.078	.5161	.5384
#2	.5388	2.156	.2387	.5206	15.82	.5588	2.086	.5159	.5392
#3	.5417	2.177	.2412	.5238	16.02	.5585	2.070	.5136	.5402

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2331.4	7181.6	51021.	7334.0
Stddev	8.0	7.5	496.	69.9
%RSD	.34171	.10502	.97242	.95373

#1	2329.5	7188.6	50475.	7414.6
#2	2324.5	7182.5	51143.	7298.7
#3	2340.1	7173.6	51444.	7288.8

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Sample Name: MP30786-S1 Acquired: 9/2/2016 12:08:03 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0490	28.74	2.053	3.057	.0511	670.0	.0498	.4991	.2069
Stddev	.0015	.05	.004	.006	.0002	10.6	.0001	.0006	.0014
%RSD	3.078	.1863	.2027	.2117	.3779	1.583	.1828	.1248	.6905

#1	.0499	28.71	2.057	3.051	.0511	661.3	.0499	.4998	.2053
#2	.0473	28.81	2.053	3.064	.0512	667.0	.0497	.4991	.2071
#3	.0498	28.72	2.049	3.055	.0509	681.8	.0499	.4985	.2082

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.2558	26.34	135.9	24.69	.5132	.5211	96.26	.5004	.4999
Stddev	.0002	.06	.5	.07	.0007	.0006	.13	.0012	.0013
%RSD	.0952	.2233	.3769	.2666	.1437	.1136	.1390	.2480	.2691

#1	.2555	26.28	136.5	24.63	.5129	.5204	96.24	.4990	.4997
#2	.2558	26.39	135.7	24.69	.5127	.5215	96.40	.5013	.4986
#3	.2560	26.36	135.5	24.76	.5141	.5213	96.14	.5010	.5013

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.5160	2.041	.2362	.5156	F15.88	.5317	1.974	.4931	.5156
Stddev	.0027	.009	.0003	.0003	.27	.0005	.004	.0006	.0012
%RSD	.5153	.4201	.1337	.0663	1.713	.0908	.2024	.1199	.2243

#1	.5136	2.034	.2360	.5155	15.77	.5322	1.978	.4931	.5170
#2	.5189	2.039	.2360	.5152	15.68	.5312	1.970	.4937	.5149
#3	.5154	2.051	.2365	.5159	16.19	.5317	1.974	.4925	.5151

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2328.4	7135.3	51136.	7306.9
Stddev	3.6	13.6	319.	59.3
%RSD	.15408	.19120	.62292	.81200

#1	2324.3	7124.2	51391.	7347.1
#2	2329.9	7131.2	51238.	7334.8
#3	2331.0	7150.6	50779.	7238.8

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Sample Name: MP30786-PS1 Acquired: 9/2/2016 12:16:32 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0449	3.290	.1056	1.242	.0503	672.9	.0507	.0512	.0568
Stddev	.0007	.018	.0022	.008	.0002	8.3	.0001	.0002	.0004
%RSD	1.458	.5432	2.090	.6236	.4134	1.228	.2557	.4619	.6246

#1	.0456	3.270	.1050	1.249	.0500	668.1	.0508	.0512	.0572
#2	.0450	3.305	.1037	1.243	.0503	668.1	.0506	.0509	.0565
#3	.0443	3.294	.1080	1.234	.0504	682.4	.0506	.0514	.0567

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.1084	3.070	118.7	4.830	.0546	.1046	81.42	.1015	.0480
Stddev	.0013	.022	.5	.042	.0002	.0006	.15	.0006	.0005
%RSD	1.173	.7284	.3951	.8752	.4108	.5472	.1890	.5846	1.028

#1	.1088	3.096	118.2	4.845	.0549	.1053	81.28	.1019	.0484
#2	.1070	3.056	118.7	4.782	.0544	.1045	81.39	.1008	.0480
#3	.1095	3.059	119.1	4.863	.0546	.1042	81.58	.1017	.0474

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.1106	.1034	.2479	.0482	F16.09	.1081	.0999	.0508	.3183
Stddev	.0023	.0020	.0017	.0004	.06	.0007	.0025	.0008	.0003
%RSD	2.088	1.905	.6833	.8639	.3930	.6803	2.477	1.533	.0853

#1	.1080	.1056	.2486	.0478	16.11	.1089	.0986	.0506	.3186
#2	.1113	.1017	.2460	.0484	16.14	.1074	.0984	.0502	.3181
#3	.1124	.1030	.2493	.0485	16.02	.1080	.1028	.0517	.3183

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2361.8	7116.5	50868.	7185.2
Stddev	4.3	13.2	230.	8.2
%RSD	.18050	.18617	.45270	.11456

#1	2357.6	7109.7	50721.	7180.4
#2	2366.1	7131.8	50750.	7194.7
#3	2361.7	7108.1	51133.	7180.5

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Sample Name: MP30786-SD1 Acquired: 9/2/2016 12:20:53 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 10.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0008	.8015	.0126	.9693	-.0005	.674.4	-.0006	-.0008	-.0058	-.0013
Stddev	.0015	.0193	.0017	.0017	.0002	2.4	.0003	.0011	.0019	.0031
%RSD	202.8	2.407	13.52	.1743	35.05	.3501	45.65	128.7	32.93	244.4

#1	.0016	.8186	.0139	.9704	-.0004	.672.1	-.0005	.0015	.0042	.0029
#2	-.0010	.7805	.0107	.9674	-.0007	.676.8	-.0009	.0014	.0079	.0031
#3	.0017	.8052	.0132	.9702	-.0005	.674.2	-.0004	-.0004	.0053	-.0023

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	.0145	.109.2	.0208	.0011	-.0046	.71.58	-.0012	-.0078	-.0022	-.0035
Stddev	.0073	.2	.2395	.0003	.0020	.10	.0009	.0068	.0024	.0056
%RSD	50.14	.1598	1153.	29.86	43.57	.1381	78.72	86.33	108.1	159.7

#1	.0178	.109.0	-.1311	.0015	-.0025	.71.49	-.0022	-.0120	-.0001	-.0016
#2	.0062	.109.1	.2969	.0010	-.0064	.71.68	-.0004	-.0000	-.0046	-.0027
#3	.0195	.109.3	-.1035	.0009	-.0048	.71.56	-.0009	-.0115	-.0019	-.0095

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.2328	-.0027	.15.80	.0082	.0130	-.0002	.0994
Stddev	.0048	.0016	.04	.0019	.0099	.0005	.0002
%RSD	2.073	58.06	.2764	17.23	76.23	.248.8	.2113

#1	.2273	-.0017	.15.78	.0087	.0218	-.0006	.0992
#2	.2364	-.0045	.15.85	.0061	.0148	-.0004	.0996
#3	.2347	-.0019	.15.78	.0098	.0023	.0004	.0993

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2586.8	7524.1	53728.	7419.9
Stddev	2.9	4.5	257.	21.1
%RSD	.11346	.05955	.47792	.28424

#1	2590.2	7523.6	54025.	7439.9
#2	2584.9	7520.0	53576.	7397.9
#3	2585.3	7528.9	53584.	7422.0

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Sample Name: FA36533-3 Acquired: 9/2/2016 12:29:15 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 2.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	-.0013	.0517	.0020	.0158	.0000	37.71	-.0002	-.0002	.0005	.0000
Stddev	.0003	.0192	.0012	.0002	.000	.07	.0001	.0002	.0002	.000
%RSD	24.82	37.10	61.61	1.322	96.95	.1819	68.41	99.69	42.81	456.9

#1	-.0010	.0495	.0033	.0159	.0000	37.75	-.0003	-.0003	.0005	-.0002
#2	-.0016	.0337	.0016	.0156	.0000	37.63	.0000	-.0002	.0003	.0002
#3	-.0013	.0719	.0010	.0160	.0000	37.75	-.0002	.0000	.0007	-.0001

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	13.08	1.492	3.071	.0754	-.0005	123.9	-.0006	.0007	-.0014	.0042
Stddev	.01	.003	.053	.0005	.0000	.4	.0005	.0007	.0009	.0031
%RSD	.0447	.1664	1.737	.6342	5.515	.3047	83.38	104.9	63.40	74.39

#1	13.07	1.489	3.040	.0753	-.0005	124.2	.0000	-.0001	-.0022	.0062
#2	13.09	1.493	3.133	.0759	-.0005	123.5	-.0010	.0013	-.0017	.0006
#3	13.08	1.493	3.041	.0749	-.0005	123.9	-.0008	.0009	-.0004	.0057

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	4.962	-.0001	.1153	.0014	.0018	.0010	.0207
Stddev	.007	.0005	.0002	.0001	.0019	.0002	.0001
%RSD	.1489	444.3	.1700	6.334	10.4	19.00	.4527

#1	4.964	-.0005	.1154	.0013	.0005	.0008	.0207
#2	4.969	.0005	.1150	.0013	.0041	.0009	.0206
#3	4.954	-.0003	.1154	.0014	.0010	.0012	.0208

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2548.4	7503.9	53691.	7479.4
Stddev	2.4	8.3	106.	35.5
%RSD	.09287	.11084	.19783	.47408

#1	2545.7	7496.7	53596.	7438.8
#2	2549.4	7502.0	53805.	7504.5
#3	2550.2	7513.0	53671.	7494.7

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Sample Name: FA36481-14 Acquired: 9/2/2016 12:25:01 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 10.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0007	.0482	.0215	.0609	-.0003	.329.9	-.0032	.1191	.0072	.0137
Stddev	.0013	.1177	.0094	.0012	.0002	1.1	.0001	.0012	.0012	.0041
%RSD	23.70	244.0	43.49	1.992	52.17	.3245	4.494	1.024	16.94	30.10

#1	.0044	.1571	.0125	.0598	.0004	328.9	-.0033	.1177	.0086	.0094
#2	.0055	.0641	.0209	.0608	.0004	329.8	-.0033	.1196	.0061	.0139
#3	.0071	-.0766	.0312	.0622	.0001	331.1	-.0030	.1200	.0070	.0177

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	.988.6	6.093	.64.95	21.12	-.0227	404.1	-.2325	.1704	.0126	.0503
Stddev	3.8	.340	.43	.20	.0006	.9	.0019	.0044	.0029	.0089
%RSD	.3839	5.574	.6639	.9355	2.852	.2216	.8218	2.568	22.91	17.60

#1	.985.2	6.259	.65.41	.20.89	.0235	403.7	.2327	.1738	.0150	.0404
#2	.987.8	5.702	.64.89	21.25	.0223	403.5	.2343	.1720	.0094	.0575
#3	.992.7	6.318	.64.55	21.21	.0225	405.1	.2305	.1655	.0134	.0530

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	3.308	.0035	3.503	.0084	.0133	.0075	1.159
Stddev	.011	.0023	.016	.0015	.0028	.0017	.002
%RSD	.3447	63.91	.4446	18.22	21.02	23.07	.1665

#1	3.296	.0059	3.487	.0076	.0120	.0060	1.157
#2	3.308	.0034	3.503	.0074	.0114	.0094	1.160
#3	3.319	.0014	3.518	.0102	.0166	.0070	1.159

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2560.5	7514.5	53576.	7461.1
Stddev	1.7	15.0	163.	27.5
%RSD	.06654	.19938	.30415	.36818

#1	2560.7	7528.3	53757.	7442.7
#2	2558.7	7498.6	53530.	7492.6
#3	2562.1	7516.7	53441.	7447.9

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Sample Name: FA36429-1 Acquired: 9/2/2016 12:33:21 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	.0020	2.688	.0431	.0861	-.0003	147.9	.0007	.0310	.1024
Stddev	.0014	.042	.0008	.0013	.0002	.2	.0001	.0003	.0016
%RSD	69.16	1.546	1.814	1.544	63.71	.1062	17.02	.9281	1.537

#1	.0004	2.659	.0439	.0869	-.0004	148.1	.0009	.0313	.1040
#2	.0025	2.736	.0431	.0867	-.0004	147.9	.0007	.0311	.1008
#3	.0029	2.670	.0423	.0845	-.0001	147.8	.0006	.0307	.1024

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.1755	125.9	44.09	26.12	4.056	3.694	168.1	.2068	.1052
Stddev	.0018	.3	.23	.06	.019	.001	.1	.0005	.0026
%RSD	1.002	.2576	.5106	.2405	.4782	.0334	.0533	.2478	2.455

#1	.1759	125.9	44.31	26.19	4.038	3.693	168.1	.2070	.1023
#2	.1735	126.2	44.12	26.09	4.076	3.696	168.1	.2062	.1073
#3	.1769	125.6	43.86	26.08	4.053	3.695	168.0	.2071	.1059

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0864	.0159	10.03	.0514	.1030	.0207	.0026	-.0043	F35.35
Stddev	.0069	.0063	.01	.0013	.0002	.0002	.0005	.0022	.06
%RSD	7.942	39.60	.1212	2.488	.2242	1.079	17.99	50.34	.1606

#1	.0785	.0220	10.05	.0519	.1029	.0209	.0031	-.0018	35.29
#2	.0913	.0094	10.03	.0500	.1033	.0208	.0024	-.0056	35.40
#3	.0893	.0162	10.02	.0524	.1029	.0205	.0022	-.0056	35.35

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2550.1	7473.9	53732.	7375.5
Stddev				

Sample Name: FA36511-1 Acquired: 9/2/2016 12:37:25 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 100.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-1976	31.48	12.72	-2389	-0162	2769	-0328	F642.0	7.284
Stddev	.0442	.23	.10	.0080	.0039	.9	.0019	.4	.046
%RSD	22.38	.7364	.8130	3.363	24.40	.3124	5.720	.0570	.6365

#1	-1527	31.72	12.66	-2299	-0119	2778	-0335	641.6	7.272
#2	-1989	31.47	12.65	-2454	-0168	2768	-0307	642.0	7.336
#3	-2411	31.25	12.84	-2414	-0197	2761	-0342	642.4	7.246

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	-1167	613.1	4.995	5.367	98.36	1.134	5.756	111.8	.1745
Stddev	.0129	.7	2.962	.276	.38	.018	.499	.1	.0429
%RSD	11.02	.1107	59.30	5.137	.3909	1.549	8.662	.0872	24.57

#1	-1027	613.9	6.472	5.201	98.03	1.126	5.557	111.7	.2083
#2	-1195	613.0	6.929	5.215	98.78	1.123	5.387	111.9	.1263
#3	-1279	612.5	1.585	5.685	98.25	1.154	6.323	111.8	.1890

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-1712	2792	8.090	-0482	37.10	39.00	1.827	.2194	.8765
Stddev	.1071	.0583	.048	.0056	.12	.17	.077	.0190	.0072
%RSD	62.60	20.90	.5952	11.72	.3207	.4315	4.241	8.664	.8195

#1	-2465	.2148	8.063	-.0421	37.19	38.87	1.875	.2352	.8837
#2	-.0485	.2942	8.062	-.0493	37.14	39.19	1.869	.2246	.8765
#3	-.2185	.3285	8.146	-.0532	36.97	38.94	1.738	.1983	.8693

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2677.6	8776.4	62406.	8776.9
Stddev	3.9	7.1	168.	42.6
%RSD	.14408	.08068	.26900	.48562

#1	2678.8	8770.6	62599.	8727.7
#2	2673.3	8774.4	62318.	8802.8
#3	2680.8	8784.3	62300.	8800.2

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Sample Name: CCV Acquired: 9/2/2016 12:59:07 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2599	40.94	2.014	2.096	2.013	40.24	2.056	2.053	2.077	2.082
Stddev	.0005	.01	.006	.008	.002	.01	.003	.002	.004	.003
%RSD	.1991	.0270	.3129	.4007	.0852	.0188	.1591	.0929	.1791	.1466

#1	.2605	40.93	2.021	2.090	2.014	40.23	2.054	2.053	2.073	2.079
#2	.2596	40.94	2.010	2.106	2.011	40.24	2.054	2.051	2.077	2.083
#3	.2597	40.95	2.010	2.093	2.012	40.25	2.060	2.055	2.081	2.085

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.23	41.19	39.64	2.125	2.047	41.59	2.085	2.049	2.052	2.072
Stddev	.04	.02	.01	.010	.004	.05	.003	.004	.004	.003
%RSD	.0904	.0525	.0295	.4547	.2012	.1108	.1332	.2052	.1691	.1298

#1	39.20	41.17	39.65	2.134	2.043	41.54	2.081	2.044	2.048	2.069
#2	39.27	41.18	39.63	2.115	2.046	41.62	2.086	2.051	2.054	2.075
#3	39.23	41.21	39.63	2.127	2.051	41.62	2.086	2.051	2.054	2.071

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.103	2.029	2.104	2.128	2.071	2.060	2.065
Stddev	.002	.003	.002	.006	.005	.002	.004
%RSD	.0805	.1665	.0835	.3042	.2254	.1166	.1933

#1	2.101	2.027	2.105	2.121	2.070	2.057	2.063
#2	2.103	2.026	2.102	2.129	2.076	2.060	2.063
#3	2.105	2.033	2.105	2.133	2.067	2.062	2.070

Check ? Value
Range
None Chk PassChk PassChk PassChk PassChk PassChk Pass

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Sample Name: FA36550-1 Acquired: 9/2/2016 12:41:28 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 20.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-0083	10.12	.0376	.1977	-.0001	5.248	.0213	.0069	.1115
Stddev	.0053	.14	.0209	.0026	.0010	.031	.0009	.0018	.0028
%RSD	63.57	1.417	55.47	1.322	1441.	.5881	4.109	25.77	2.494

#1	-.0058	10.11	.0254	.2007	-.0006	5.280	.0217	.0070	.1089
#2	-.0144	10.26	.0617	.1965	-.0007	5.246	.0203	.0086	.1112
#3	-.0048	9.975	.0257	.1959	.0011	5.218	.0220	.0051	.1145

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.2055	94.35	.5002	.6799	1.232	.0093	1.822	.0702	.1367
Stddev	.0066	.10	.4910	.1848	.009	.0013	.065	.0017	.0108
%RSD	3.203	.1107	98.16	27.18	.7319	14.10	3.547	2.434	7.932

#1	.2125	94.29	1.067	.8422	1.223	.0090	1.887	.0711	.1323
#2	.2046	94.29	.1957	.7188	1.233	.0108	1.757	.0714	.1490
#3	.1995	94.47	.2382	.4788	1.241	.0082	1.821	.0683	.1287

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0139	.0132	1.428	.0393	.1282	3.695	-.0071	.0759	F111.5
Stddev	.0054	.0113	.021	.0017	.0004	.018	.0093	.0025	.1
%RSD	39.32	85.89	1.505	4.248	.3499	.4947	130.4	3.247	.1291

#1	.0084	.0249	1.452	.0377	.1283	3.684	.0006	.0763	111.4
#2	.0139	.0122	1.411	.0411	.1286	3.686	-.0046	.0781	111.6
#3	.0193	.0024	1.421	.0392	.1277	3.716	-.0175	.0732	111.7

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2713.3	7774.5	55181.	7637.8
Stddev	2.0	12.4	231.	19.7
%RSD	.07498	.15907	.41933	.25849

#1	2713.7	7788.7	55445.	7637.7
#2	2711.1	7768.7	55012.	7618.1
#3	2715.1	7766.0	55086.	7657.6

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Sample Name: CCV Acquired: 9/2/2016 12:59:07 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2404.1	7372.4	52501.	7336.3
Stddev	9.2	22.8	120.	37.5
%RSD	.38068	.30966	.22789	.51171

#1	2414.1	7386.6	52580.	7332.2
#2	2402.0	7384.6	52558.	7375.7
#3	2396.2	7346.1	52363.	7301.0

Sample Name: CCB		Acquired: 9/2/2016 13:03:12				Type: QC			
Method: 60102007_041712(v273)		Mode: CONC		Corr. Factor: 1.000000					
User: admin		SSTRACE02:		Custom ID2:		Custom ID3:			
Comment:									
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0101	.0011	.0002	.0001	.0028	.0000	.0002	.0001
Stddev	.0006	.0031	.0003	.0001	.0001	.0021	.0000	.0001	.0003
%RSD	195.3	30.67	24.12	45.36	55.64	73.88	12.72	32.88	405.2
#1	.0001	.0067	.0009	.0001	.0002	.0027	.0000	.0002	-.0003
#2	-.0010	.0128	.0010	.0002	.0000	.0050	.0000	.0002	.0002
#3	-.0001	.0106	.0014	.0003	.0002	.0008	.0001	.0001	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0258	.0397	.0023	.0002	F .0021	.0404	.0002	.0002
Stddev	.0001	.0037	.0359	.0209	.0000	.0004	.0032	.0001	.0006
%RSD	29.27	14.42	90.34	913.6	7.343	20.45	7.814	62.94	231.3
#1	.0002	.0298	.0812	.0254	.0002	.0025	.0440	.0002	.0009
#2	.0004	.0253	.0201	-.0032	.0002	.0021	.0380	.0003	.0001
#3	.0003	.0224	.0180	-.0153	.0002	.0017	.0393	.0001	-.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	.0011	.0006	.0002	.0001	.0008	.0006	-.0001	.0000
Stddev	.0005	.0007	.0007	.0002	.0001	.0001	.0006	.0003	.000
%RSD	55.08	61.73	108.3	123.9	94.52	11.57	90.42	261.5	136.4
#1	.0014	.0017	.0013	.0000	.0000	.0008	.0012	.0002	.0000
#2	.0008	.0011	.0000	.0004	.0001	.0009	.0007	-.0001	-.0001
#3	.0005	.0004	.0006	.0002	.0002	.0007	.0000	-.0005	.0000
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Sample Name: CCB		Acquired: 9/2/2016 13:03:12		Type: QC	
Method: 60102007_041712(v273)		Mode: CONC		Corr. Factor: 1.000000	
User: admin		SSTRACE02:		Custom ID2:	
Comment:				Custom ID3:	
Int. Std.	In2306	Y_2243	Y_3600	Y_3710	
Units	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2680.2	7642.8	53880.	7369.7	
Stddev	6.5	19.9	442.	34.0	
%RSD	.24337	.26039	.82035	.46177	
#1	2677.4	7659.0	54245.	7408.7	
#2	2687.7	7648.7	54006.	7346.6	
#3	2675.6	7620.6	53389.	7353.6	

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Sample Name: MP30789-MB1			Acquired: 9/2/2016 13:18:03			Type: QC				
Method: 60102007_041712(v273)			Mode: CONC			Corr. Factor: 1.000000				
User: admin			SSTRACE02:			Custom ID2:			Custom ID3:	
Comment:										
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0239	-.0003	-.0003	.0000	.0606	.0000	.0000	.0013	.0002
Stddev	.0002	.0084	.0007	.0002	.000	.0003	.0000	.000	.0003	.0002
%RSD	57.36	35.18	267.1	67.70	152.5	.4627	116.4	82.26	23.65	129.0
#1	-.0001	.0315	-.0005	-.0001	.0000	.0609	.0000	-.0001	.0009	.0003
#2	-.0005	.0149	-.0008	-.0005	.0000	.0604	.0001	.0000	.0013	-.0001
#3	-.0006	.0253	.0006	-.0003	.0000	.0605	.0000	.0000	.0015	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0331	.0439	.0110	.0006	.0000	.0404	.0003	.0012	-.0002	.0007
Stddev	.0022	.0322	.0075	.0001	.0001	.0042	.0001	.0006	.0010	.0011
%RSD	6.717	73.29	68.37	9.535	130.3	10.29	37.98	50.35	492.6	143.2
#1	.0341	.0195	.0197	.0006	.0000	.0364	.0004	.0009	-.0013	.0000
#2	.0347	.0804	.0060	.0005	.0001	.0401	.0002	.0019	.0002	.0020
#3	.0306	.0319	.0074	.0006	.0001	.0447	.0002	.0008	.0006	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm			
Avg	.0116	.0217	.0000	.0011	-.0010	-.0001	.0042			
Stddev	.0003	.0003	.000	.0001	.0003	.0002	.0001			
%RSD	2.441	1.604	2270.	4.965	36.05	117.2	1.294			
#1	.0114	.0214	-.0001	.0010	-.0008	-.0001	.0042			
#2	.0119	.0217	.0001	.0011	-.0007	-.0003	.0042			
#3	.0114	.0221	-.0001	.0010	-.0013	.0000	.0041			
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass			
High Limit										
Low Limit										

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Sample Name: MP30789-MB1			Acquired: 9/2/2016 13:18:03		Type: QC
Method: 60102007_041712(v273)			Mode: CONC		Corr. Factor: 1.000000
User: admin			SSTRACE02:		Custom ID2:
Comment:			Custom ID3:		
Int. Std.	In2306	Y_2243	Y_3600	Y_3710	
Units	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2603.8	7435.4	52448.	7073.4	
Stddev	7.3	6.1	98.	11.6	
%RSD	.28010	.08249	.18707	.16407	
#1	2595.5	7429.6	52402.	7074.1	
#2	2607.5	7441.8	52561.	7084.6	
#3	2608.6	7434.7	52382.	7061.4	

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Sample Name: MP30789-B1 Acquired: 9/2/2016 13:22:14 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0497	28.79	2.048	2.206	.0540	26.89	.0530	.5292	.2170	.2723
Stddev	.0006	.01	.006	.007	.0001	.02	.0000	.0010	.0005	.0010
%RSD	1.296	.0325	.2922	.3233	.2730	.0572	.0314	.1964	.2267	.3557
#1	.0498	28.78	2.044	2.214	.0541	26.89	.0530	.5283	.2173	.2734
#2	.0490	28.80	2.045	2.199	.0541	26.88	.0530	.5290	.2165	.2717
#3	.0502	28.79	2.055	2.206	.0538	26.91	.0530	.5303	.2174	.2717

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.65	27.09	25.89	5572	5373	27.41	.5379	.5215	.5154	2.104
Stddev	.05	.05	.05	.0029	.0004	.02	.0005	.0011	.0019	.005
%RSD	.1795	.1910	.1831	.5158	.0678	.0811	.0920	.2127	.3701	.2634
#1	27.62	27.15	25.89	.5605	.5374	27.43	.5376	.5204	.5144	2.103
#2	27.71	27.06	25.85	.5562	.5369	27.39	.5376	.5215	.5141	2.099
#3	27.63	27.07	25.94	.5550	.5376	27.43	.5385	.5226	.5176	2.110

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0294	.5540	.5403	.5554	2.082	.5114	.5334
Stddev	.0011	.0016	.0008	.0023	.003	.0010	.0013
%RSD	3.578	.2939	.1488	.4221	.1322	.1868	.2363
#1	.0306	.5527	.5410	.5580	2.079	.5124	.5320
#2	.0288	.5534	.5405	.5547	2.084	.5106	.5340
#3	.0288	.5558	.5394	.5535	2.083	.5111	.5343

Check ? None Chk Pass None None Chk PassChk PassChk Pass
Value
Range

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Sample Name: MP30789-B1 Acquired: 9/2/2016 13:22:14 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2417.7	7222.6	51538.	7013.1
Stddev	4.3	14.0	223.	40.5
%RSD	.17926	.19412	.43296	.57744
#1	2421.6	7235.8	51301.	7008.0
#2	2413.0	7207.9	51568.	7055.9
#3	2418.4	7224.0	51744.	6975.3

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Sample Name: C46963-23 Acquired: 9/2/2016 13:26:11 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	
Avg	.0136	348.3	.0846	1.925	.0046	562.3	.0032	.1777	1.031
Stddev	.0013	1.2	.0062	.002	.0002	2.6	.0003	.0010	.004
%RSD	9.272	.3411	7.323	.0932	4.370	.4543	9.365	.5493	.3958
#1	.0138	349.4	.0882	1.923	.0048	564.5	.0033	.1770	1.033
#2	.0122	347.0	.0883	1.926	.0046	559.5	.0034	.1773	1.027
#3	.0147	348.5	.0775	1.925	.0044	563.0	.0028	.1789	1.034

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.8031	624.5	20.89	236.4	7.369	.0258	33.53	1.084	.2040
Stddev	.0033	2.6	.19	1.2	.048	.0008	.14	.002	.0015
%RSD	.4105	.4134	.9190	.5044	.6543	3.144	.4277	.1708	.7122
#1	.8069	626.6	20.71	237.4	7.425	.0263	33.60	1.085	.2037
#2	.8019	621.6	20.86	235.1	7.336	.0249	33.36	1.082	.2056
#3	.8007	625.3	21.09	236.8	7.347	.0263	33.62	1.085	.2027

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0002	.0293	6.980	.0297	1.157	F26.11	.0248	1.224	1.456
Stddev	.0056	.0018	.005	.0012	.004	.21	.0073	.002	.003
%RSD	2602.	6.120	.0686	4.185	.3743	.8163	29.60	.1772	.1866
#1	.0003	.0272	6.978	.0306	1.161	26.35	.0197	1.225	1.456
#2	-.0054	.0305	6.986	.0301	1.153	26.04	.0215	1.221	1.454
#3	.0058	.0301	6.977	.0283	1.158	25.93	.0332	1.224	1.459

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2421.1	8132.3	57465.	8048.0
Stddev	6.4	12.5	279.	34.9
%RSD	.26404	.15421	.48601	.43326
#1	2426.3	8133.8	57149.	8060.4
#2	2422.9	8144.0	57677.	8075.0
#3	2414.0	8119.1	57570.	8008.7

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Sample Name: MP30789-D1 Acquired: 9/2/2016 13:30:22 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	
Avg	.0109	363.2	.0921	2.378	.0052	472.4	.0039	.1554	1.172
Stddev	.0009	.5	.0048	.011	.0002	.9	.0003	.0006	.003
%RSD	8.584	.1333	5.198	.4472	3.818	.1901	7.340	.3789	.2338
#1	.0113	363.8	.0870	2.387	.0051	473.4	.0039	.1548	1.175
#2	.0115	363.1	.0965	2.380	.0051	471.6	.0036	.1554	1.171
#3	.0098	362.8	.0928	2.366	.0055	472.2	.0042	.1560	1.170

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.6637	557.1	25.65	215.5	6.859	.0294	34.44	1.025	.1870
Stddev	.0010	.8	.15	.2	.025	.0006	.10	.003	.0057
%RSD	.1481	.1378	.6034	.0919	.3710	2.056	.2930	.3192	3.036
#1	.6648	557.7	25.50	215.7	6.830	.0289	34.40	1.025	.1923
#2	.6633	556.2	25.81	215.3	6.875	.0293	34.55	1.022	.1810
#3	.6629	557.3	25.64	215.4	6.872	.0301	34.36	1.029	.1877

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	-.0112	.0274	4.431	.0366	1.145	F21.39	.0169	1.212	1.386
Stddev	.0049	.0071	.007	.0003	.001	.14	.0045	.003	.003
%RSD	43.91	25.80	.1575	.7707	.1161	.6645	26.62	.2415	.2098
#1	-.0095	.0193	4.428	.0369	1.145	21.55	.0122	1.210	1.387
#2	-.0168	.0306	4.426	.0367	1.143	21.34	.0174	1.215	1.383
#3	-.0074	.0323	4.439	.0363	1.146	21.28	.0212	1.210	1.389

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2431.3	8433.0	60063.	8456.6
Stddev	4.8	7.0	132.	44.3
%RSD	.19601	.08250	.21916	.52429
#1	2430.8	8433.8	60143.	8456.2
#2	2436.2	8439.5	59911.	8501.1
#3	2426.7	8425.7	60136.	8412.4

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Sample Name: MP30789-SD1											
Acquired: 9/2/2016 13:34:33											
Type: Unk											
Method: 60102007_041712(v273)											
Mode: CONC											
Corr. Factor: 25.000000											
User: admin											
SSTRACE02:											
Custom ID2:											
Custom ID3:											
Comment:											
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)	
Avg	.0199	.386.2	.0892	2.156	.0050	.609.3	.0014	.1978	1.146	.8428	
Stddev	.0046	1.6	.0240	.005	.0015	2.1	.0005	.0028	.008	.0066	
%RSD	22.91	.4244	26.90	.2331	29.28	.3480	32.38	1.391	.7173	.7803	
#1	.0187	.384.3	.0650	2.159	.0064	.607.4	.0017	.1947	1.137	.8356	
#2	.0160	.387.4	.0896	2.158	.0035	.611.6	.0009	.2001	1.154	.8485	
#3	.0249	.386.8	.1130	2.150	.0053	.608.9	.0016	.1987	1.147	.8443	
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960	
IS Ref	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)	
Avg	.681.8	25.21	261.0	7.965	.0717	37.23	1.190	.1980	-.0119	-.0136	
Stddev	1.6	.16	1.2	.058	.0018	.70	.005	.0135	.0150	.0245	
%RSD	.2363	.6237	.4426	.7310	10.70	1.889	.4217	6.821	126.4	180.7	
#1	.680.0	25.29	260.6	7.901	.0185	36.41	1.185	.2006	-.0291	-.0413	
#2	.683.2	25.32	262.3	8.013	.0178	37.59	1.195	.2100	-.0050	-.0047	
#3	.682.1	25.03	260.1	7.982	.0150	37.67	1.190	.1834	-.0015	.0053	
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062				
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)				
Avg	34.63	.0242	1.250	29.36	.0427	1.348	1.726				
Stddev	.90	.0020	.003	.32	.0257	.007	.002				
%RSD	2.611	8.419	.2711	1.078	60.12	.4955	.1405				
#1	35.67	.0250	1.248	29.00	.0705	1.342	1.725				
#2	34.18	.0258	1.254	29.58	.0198	1.349	1.729				
#3	34.04	.0219	1.249	29.51	.0378	1.355	1.724				
Int. Std.	In2306	Y_2243	Y_3600	Y_3710							
Avg	2609.3	7718.6	55077.	7598.3							
Stddev	2.9	12.5	330.	40.9							
%RSD	.11205	.16237	.59828	.53819							
#1	2612.0	7731.6	55419.	7641.8							
#2	2606.2	7706.6	54762.	7592.4							
#3	2609.8	7717.6	55051.	7560.7							

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Sample Name: MP30789-PS1											
Acquired: 9/2/2016 13:38:38											
Type: Unk											
Method: 60102007_041712(v273)											
Mode: CONC											
Corr. Factor: 5.000000											
User: admin											
SSTRACE02:											
Custom ID2:											
Custom ID3:											
Comment:											
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247	
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)	
Avg	.0557	.344.2	.1752	2.154	.0502	.555.5	.0493	.2209	1.067		
Stddev	.0017	.6	.0018	.007	.0002	1.6	.0004	.0006	.003		
%RSD	3.059	.1728	1.004	.3439	.3956	.2797	.8041	.2796	.2813		
#1	.0538	.344.1	.1735	2.145	.0503	.555.8	.0493	.2202	1.065		
#2	.0569	.343.6	.1752	2.158	.0504	.553.8	.0489	.2212	1.066		
#3	.0565	.344.8	.1770	2.158	.0500	.556.9	.0497	.2213	1.071		
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203		
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_2243)	(Y_2243)	(In2306)		
Avg	.8830	.613.1	29.88	237.0	7.280	.1168	42.54	1.156	.2507		
Stddev	.0023	1.9	.16	.6	.015	.0006	.09	.004	.0031		
%RSD	.2600	.3148	.5228	.2388	.2100	.5170	.2137	.3552	1.217		
#1	.8830	.613.8	29.98	237.5	7.293	.1174	42.55	1.155	.2514		
#2	.8807	.611.0	29.95	236.4	7.285	.1168	42.45	1.153	.2473		
#3	.8853	.614.6	29.70	237.0	7.263	.1162	42.63	1.161	.2533		
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062		
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)		
Avg	.0859	.1182	6.884	.0731	1.180	F25.91	.1240	1.256	1.725		
Stddev	.0039	.0090	.014	.0011	.001	.08	.0026	.005	.003		
%RSD	4.540	7.603	.1999	1.490	.0532	.3103	2.096	.3724	.1622		
#1	.0841	.1105	6.869	.0732	1.180	25.93	.1235	1.259	1.722		
#2	.0903	.1160	6.886	.0719	1.179	25.98	.1217	1.251	1.726		
#3	.0832	.1280	6.897	.0741	1.180	25.82	.1268	1.260	1.727		
Int. Std.	In2306	Y_2243	Y_3600	Y_3710							
Avg	2416.9	8106.4	57332.	8125.7							
Stddev	6.9	5.0	92.	87.4							
%RSD	.28388	.06121	.15967	1.0755							
#1	2412.7	8111.6	57237.	8061.3							
#2	2424.8	8105.8	57340.	8225.2							
#3	2413.2	8101.7	57420.	8090.7							

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Sample Name: MP30789-S				Acquired: 9/2/2016 13:42:50				Type: Unk			
Method: 60102007_041712(v273)				Mode: CONC				Corr. Factor: 5.000000			
User: admin				SSTRACE02:				Custom ID2:			
Comment:								Custom ID3:			
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677		
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)		
Avg	.0559	423.9	1.828	3.986	.0516	495.6	.0510	.6832	1.355		
Stddev	.0031	1.4	.007	.012	.0005	1.9	.0004	.0020	.006		
%RSD	5.557	.3236	.3635	.3061	1.013	.3792	.7404	.2942	.4786		
#1	.0589	423.5	1.825	3.989	.0518	495.9	.0509	.6812	1.363		
#2	.0527	425.4	1.823	3.997	.0520	497.4	.0507	.6831	1.353		
#3	.0560	422.8	1.836	3.973	.0511	493.6	.0514	.6853	1.350		
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203		
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)		
Avg	.8717	604.9	47.03	266.4	8.034	4370	58.08	1.755	.6823		
Stddev	.0027	1.7	.10	.7	.061	.0017	.10	.004	.0018		
%RSD	.3076	.2781	.2146	.2513	.7645	.3904	.1704	.2254	.2570		
#1	.8741	605.0	47.02	266.6	8.094	4372	58.04	1.752	.6843		
#2	.8724	606.6	47.13	267.0	8.037	4352	58.19	1.753	.6813		
#3	.8688	603.2	46.93	265.7	7.971	4385	58.01	1.759	.6813		
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062		
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)		
Avg	.0929	1.835	4.663	.4736	1.449	F22.06	2.004	1.504	1.982		
Stddev	.0091	.012	.003	.0007	.003	.07	.005	.001	.002		
%RSD	9.842	.6489	.0643	.1404	.2070	.3053	.2292	.0592	.1086		
#1	.0841	1.836	4.661	.4737	1.448	22.14	2.004	1.504	1.981		
#2	.0921	1.846	4.666	.4742	1.453	22.01	2.000	1.505	1.981		
#3	.1024	1.823	4.662	.4729	1.448	22.05	2.009	1.503	1.985		
Int. Std.	In2306	Y_2243	Y_3600	Y_3710							
Avg	2410.8	8151.8	57531.	8129.0							
Stddev	5.4	9.0	330.	65.1							
%RSD	.22414	.11062	.57426	.80051							
#1	2408.1	8153.9	57247.	8070.9							
#2	2417.0	8159.5	57454.	8116.7							
#3	2407.3	8141.9	57894.	8199.3							

◀ Zoom In ▶
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Sample Name: C46963-24 Acquired: 9/2/2016 13:51:05 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0132	388.3	.1057	2.825	.0125	55.35	.0024	.2538	1.095	.5803
Stddev	.0005	.3	.0003	.004	.0002	.06	.0001	.0001	.004	.0013
%RSD	4.105	.0875	.2668	.1431	1.293	.1085	5.236	.0331	.3719	.2252

#1	.0137	388.4	.1056	2.820	.0124	55.37	.0023	.2538	1.094	.5814
#2	.0133	387.9	.1060	2.827	.0123	55.28	.0024	.2538	1.091	.5807
#3	.0126	388.5	.1055	2.828	.0126	55.39	.0025	.2537	1.099	.5789

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	577.4	55.26	172.5	10.59	.0368	165.7	.9668	.2872	-.0142	-.0189
Stddev	1.1	.15	.3	.08	.0013	.2	.0013	.0069	.0041	.0042
%RSD	.1862	.2801	.1973	.7277	3.473	.1479	.1317	2.393	29.10	22.27

#1	576.2	55.44	172.7	10.61	.0383	165.8	.9661	.2834	-.0108	.0234
#2	577.6	55.16	172.1	10.66	.0360	165.4	.9683	.2951	-.0188	.0151
#3	578.3	55.18	172.7	10.51	.0361	165.9	.9661	.2830	-.0130	.0183

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	4.993	.0281	.6595	8.600	.0155	.9417	1.770
Stddev	.010	.0015	.0006	.012	.0046	.0015	.002
%RSD	.1934	5.323	.0900	.1359	29.84	.1609	.1280

#1	4.989	.0265	.6598	8.612	.0154	.9400	1.768
#2	5.004	.0294	.6598	8.589	.0109	.9430	1.771
#3	4.986	.0284	.6588	8.598	.0202	.9421	1.772

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2456.1	7968.1	55840.	7846.5
Stddev	9.9	11.3	169.	26.4
%RSD	.40430	.14240	.30212	.33668

#1	2455.0	7979.8	55961.	7830.6
#2	2466.5	7957.1	55647.	7877.0
#3	2446.7	7967.4	55912.	7831.9

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Sample Name: CCV Acquired: 9/2/2016 13:59:19 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2603	41.05	2.041	2.100	1.998	40.19	2.060	2.055	2.068	2.051
Stddev	.0005	.07	.001	.005	.003	.07	.002	.001	.004	.008
%RSD	.1890	.1727	.0662	.2422	.1508	.1813	.1026	.0690	.1993	.3731

#1	.2598	40.97	2.042	2.094	1.996	40.11	2.059	2.055	2.065	2.060
#2	.2602	41.08	2.040	2.103	2.001	40.24	2.062	2.056	2.067	2.047
#3	.2608	41.10	2.043	2.102	1.996	40.24	2.058	2.053	2.073	2.046

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.80	42.09	39.69	2.088	2.036	42.06	2.058	2.032	2.030	2.039
Stddev	.11	.07	.07	.028	.002	.04	.000	.002	.001	.003
%RSD	.2947	.1731	.1676	1.332	.0999	.1026	.0177	.0918	.0391	.1618

#1	38.66	42.08	39.62	2.060	2.033	42.02	2.058	2.031	2.031	2.042
#2	38.87	42.02	39.71	2.090	2.037	42.10	2.058	2.034	2.030	2.036
#3	38.86	42.17	39.75	2.115	2.037	42.06	2.058	2.031	2.031	2.038

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.082	2.050	2.100	2.097	2.049	2.064	2.059
Stddev	.002	.003	.006	.002	.001	.005	.002
%RSD	.0785	.1199	.2717	.0784	.0704	.2223	.0847

#1	2.084	2.053	2.097	2.095	2.050	2.062	2.059
#2	2.081	2.050	2.107	2.097	2.048	2.061	2.061
#3	2.082	2.048	2.096	2.099	2.048	2.070	2.058

Check ? None Chk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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Sample Name: C46963-25 Acquired: 9/2/2016 13:55:17 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0084	376.0	.0614	1.728	.0139	58.98	.0014	.2595	1.185	.4893
Stddev	.0008	1.0	.0022	.005	.0001	.15	.0002	.0005	.002	.0006
%RSD	10.08	.2610	3.533	.2890	.6719	.2608	15.01	.1967	.1864	.1321

#1	.0082	376.6	.0639	1.722	.0139	59.10	.0013	.2595	1.186	.4892
#2	.0093	376.4	.0602	1.732	.0140	59.03	.0014	.2590	1.187	.4900
#3	.0077	374.8	.0601	1.728	.0138	58.80	.0017	.2600	1.182	.4887

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	544.3	38.62	174.5	7.862	.0355	241.6	1.193	.2447	-.0106	.0086
Stddev	2.2	.05	.3	.027	.0006	1.0	.003	.0063	.0028	.0154
%RSD	.4013	.1287	.1887	.3457	1.567	.4011	.2503	2.569	26.52	178.7

#1	545.9	38.56	174.1	7.869	.0357	242.3	1.192	.2505	-.0123	.0219
#2	545.2	38.62	174.7	7.885	.0349	242.1	1.191	.2380	-.0121	.0122
#3	541.8	38.66	174.6	7.832	.0360	240.5	1.197	.2456	-.0073	-.0082

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	8.832	.0309	.6189	5.630	.0101	.7303	1.481
Stddev	.020	.0014	.0022	.012	.0033	.0018	.002
%RSD	.2307	4.594	.3516	.2105	32.98	.2524	.1007

#1	8.827	.0306	.6210	5.623	.0063	.7291	1.479
#2	8.814	.0297	.6190	5.644	.0117	.7324	1.482
#3	8.854	.0324	.6166	5.624	.0123	.7293	1.481

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2463.4	7890.3	55467.	7761.6
Stddev	4.1	11.5	492.	45.9
%RSD	.16466	.14512	.88757	.59127

#1	2467.7	7903.5	55449.	7725.2
#2	2459.6	7883.3	54983.	7746.5
#3	2462.9	7884.0	55967.	7813.2

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Sample Name: CCV Acquired: 9/2/2016 13:59:19 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2412.7	7335.7	52569.	7225.0
Stddev	4.9	16.8	433.	55.9
%RSD	.20228	.22838	.82390	.77308

#1	2415.7	7342.4	53065.	7282.0
#2	2407.1	7316.6	52378.	7222.9
#3	2415.4	7348.0	52264.	7170.3

Sample Name: CCB		Acquired: 9/2/2016 14:03:24				Type: QC			
Method: 60102007_041712(v273)		Mode: CONC				Corr. Factor: 1.000000			
User: admin		SSTRACE02:				Custom ID2:			
Comment:						Custom ID3:			
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0107	.0005	-.0001	.0002	.0030	.0001	.0001	.0002
Stddev	.0002	.0141	.0002	.0002	.0000	.0004	.0001	.0000	.0001
%RSD	63.85	131.3	42.39	174.2	14.59	14.06	114.0	22.71	74.85
#1	-.0003	-.0053	.0008	-.0001	.0001	.0032	.0002	.0001	.0001
#2	-.0002	.0211	.0004	-.0004	.0002	.0034	.0001	.0001	.0001
#3	-.0007	.0164	.0004	.0001	.0002	.0026	.0000	.0001	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0166	.0326	.0073	.0002	F .0021	.0299	-.0001	.0001
Stddev	.0004	.0045	.0299	.0037	.0000	.0005	.0056	.0001	.0005
%RSD	744.1	26.90	91.77	50.94	16.45	22.83	18.58	98.88	500.1
#1	.0005	.0208	.0475	.0041	.0002	.0026	.0235	-.0002	.0003
#2	-.0001	.0171	-.0018	.0063	.0002	.0021	.0336	-.0003	.0005
#3	-.0002	.0119	.0521	.0113	.0002	.0016	.0326	.0000	-.0005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0007	.0009	.0001	.0001	.0010	.0006	.0002	.0000
Stddev	.0006	.0014	.0002	.0003	.0000	.0001	.0008	.0000	.0001
%RSD	727.2	217.3	18.24	458.4	34.70	9.860	149.8	18.28	1293.
#1	.0002	-.0011	.0011	.0004	.0001	.0010	.0004	.0002	.0001
#2	-.0006	.0009	.0008	-.0001	.0001	.0009	-.0002	.0003	.0000
#3	.0006	-.0018	.0009	-.0001	.0002	.0010	.0015	.0003	.0000
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Sample Name: CCB		Acquired: 9/2/2016 14:03:24				Type: QC			
Method: 60102007_041712(v273)		Mode: CONC				Corr. Factor: 1.000000			
User: admin		SSTRACE02:				Custom ID2:			
Comment:						Custom ID3:			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Units	Cts/S	Cts/S	Cts/S	Cts/S					
Avg	2695.1	7586.4	54165.	7331.2					
Stddev	6.6	3.5	236.	26.1					
%RSD	.24488	.04557	.43535	.35616					
#1	2696.3	7589.4	54339.	7340.9					
#2	2688.0	7587.1	53897.	7301.6					
#3	2701.1	7582.6	54260.	7351.0					

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Sample Name: ICV		Acquired: 9/2/2016 14:40:28				Type: QC				
Method: 60102007_041712(v273)		Mode: CONC				Corr. Factor: 1.000000				
User: admin		SSTRACE02:				Custom ID2:				
Comment:						Custom ID3:				
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2532	40.09	2.057	2.067	2.051	40.31	2.069	2.062	2.071	2.042
Stddev	.0014	.05	.006	.004	.002	.04	.000	.002	.001	.006
%RSD	.5416	.1220	.3029	.1964	.1168	.1095	.0164	.0966	.0468	.2768
#1	.2541	40.14	2.050	2.063	2.053	40.36	2.068	2.062	2.071	2.046
#2	.2516	40.05	2.060	2.071	2.052	40.28	2.069	2.060	2.072	2.036
#3	.2538	40.07	2.062	2.066	2.049	40.29	2.069	2.064	2.070	2.045
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.17	40.39	40.46	2.079	2.048	40.33	2.056	2.031	2.035	2.036
Stddev	.08	.11	.12	.007	.003	.06	.003	.005	.001	.000
%RSD	.1890	.2793	.3077	.3480	.1220	.1449	.1576	.2668	.0303	.0200
#1	40.14	40.52	40.59	2.074	2.048	40.39	2.060	2.037	2.035	2.035
#2	40.25	40.32	40.34	2.087	2.046	40.30	2.055	2.027	2.036	2.036
#3	40.11	40.33	40.44	2.075	2.051	40.28	2.054	2.029	2.036	2.036
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm			
Avg	1.658	2.048	2.050	2.089	2.047	2.062	2.066			
Stddev	.002	.002	.002	.005	.009	.002	.003			
%RSD	.1289	.1195	.1151	.2615	.4593	.0719	.1286			
#1	1.660	2.046	2.050	2.092	2.058	2.061	2.069			
#2	1.656	2.048	2.053	2.082	2.041	2.061	2.065			
#3	1.658	2.051	2.048	2.091	2.043	2.063	2.063			
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass			
Value										
Range										

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Sample Name: ICV		Acquired: 9/2/2016 14:40:28				Type: QC			
Method: 60102007_041712(v273)		Mode: CONC				Corr. Factor: 1.000000			
User: admin		SSTRACE02:				Custom ID2:			
Comment:						Custom ID3:			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710					
Units	Cts/S	Cts/S	Cts/S	Cts/S					
Avg	2411.4	7244.3	52424.	7337.9					
Stddev	9.1	15.7	130.	28.3					
%RSD	.37538	.21725	.24776	.38605					
#1	2403.0	7241.0	52464.	7305.5					
#2	2410.2	7230.4	52279.	7358.3					
#3	2421.0	7261.4	52530.	7349.8					

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Sample Name: CCV Acquired: 9/2/2016 14:45:56 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2561	40.31	2.042	2.031	2.019	40.41	2.044	2.038	2.032	1.995
Stddev	.0013	.15	.004	.010	.010	.17	.004	.002	.006	.003
%RSD	.5261	.3831	.2074	.5003	.4755	.4099	.2213	.1094	.2936	.1346
#1	2546	40.25	2.038	2.031	2.013	40.29	2.043	2.037	2.038	1.998
#2	2572	40.48	2.047	2.041	2.030	40.60	2.049	2.040	2.026	1.993
#3	2567	40.19	2.041	2.021	2.013	40.34	2.040	2.036	2.031	1.995

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	39.24	40.69	40.67	2.026	2.013	40.49	2.024	2.000	2.004	2.009
Stddev	.18	.17	.17	.010	.002	.18	.001	.003	.004	.001
%RSD	.4541	.4268	.4259	.4778	.1142	.4343	.0657	.1669	.1855	.0346
#1	39.17	40.75	40.53	2.017	2.011	40.46	2.024	1.996	2.002	2.009
#2	39.44	40.82	40.87	2.023	2.015	40.68	2.022	1.999	2.008	2.008
#3	39.10	40.49	40.62	2.036	2.011	40.33	2.024	2.003	2.002	2.009

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.051	2.044	2.031	2.042	2.014	2.040	2.039
Stddev	.003	.005	.012	.003	.008	.007	.003
%RSD	.1338	.2636	.5666	.1674	.3846	.3330	.1638
#1	2.054	2.042	2.026	2.044	2.012	2.047	2.038
#2	2.050	2.049	2.044	2.044	2.007	2.035	2.043
#3	2.049	2.039	2.023	2.038	2.023	2.036	2.036

Check ? None Chk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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Sample Name: CCB Acquired: 9/2/2016 14:51:58 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0032	.0011	.0003	.0002	.0009	.0001	.0002	.0004
Stddev	.000	.0073	.0007	.0000	.0001	.0027	.0000	.0000	.0002
%RSD	344.5	230.0	60.41	11.72	55.39	302.7	31.90	15.24	42.64
#1	.0001	.0014	.0018	.0002	.0002	-.0013	.0001	.0002	.0003
#2	-.0002	.0112	.0009	.0003	.0001	.0038	.0001	.0002	.0004
#3	.0000	-.0031	.0005	.0003	.0003	.0001	.0001	.0003	.0006

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	.0122	.0334	-.0178	.0001	F.0015	.0153	.0002	.0004
Stddev	.0001	.0011	.0124	.0129	.0001	.0001	.0041	.0002	.0007
%RSD	17.36	9.409	37.12	72.28	54.53	8.901	26.51	104.1	172.9
#1	-.0005	.0135	.0235	-.0032	.0001	.0016	.0108	.0004	.0010
#2	-.0007	.0118	.0473	-.0276	.0002	.0014	.0187	.0003	.0005
#3	-.0005	.0114	.0293	-.0226	.0001	.0014	.0165	.0000	-.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0009	.0004	.0001	.0002	.0006	-.0003	.0002	.0001
Stddev	.0005	.0008	.0004	.0001	.0001	.0000	.0007	.0001	.0000
%RSD	432.2	85.32	103.4	61.25	45.60	5.899	222.8	56.54	17.82
#1	.0005	.0013	.0008	.0000	.0003	.0006	-.0010	.0003	.0001
#2	.0004	.0015	.0000	.0001	.0001	.0006	.0004	.0001	.0001
#3	-.0005	.0000	.0003	.0002	.0002	.0006	-.0003	.0002	.0001

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCV Acquired: 9/2/2016 14:45:56 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2414.8	7230.2	52620.	7297.1
Stddev	7.8	19.2	116.	31.5
%RSD	.32371	.26563	.22057	.43108
#1	2422.8	7247.7	52510.	7328.9
#2	2414.5	7209.6	52741.	7296.4
#3	2407.2	7233.2	52609.	7266.0

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Sample Name: CCB Acquired: 9/2/2016 14:51:58 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2699.1	7499.7	54347.	7323.7
Stddev	4.4	15.0	282.	16.2
%RSD	.16379	.20052	.51928	.22146
#1	2702.9	7513.0	54670.	7308.7
#2	2694.3	7483.4	54224.	7340.9
#3	2700.2	7502.8	54148.	7321.6

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◀ Zoom In ▶
Zoom Out

Sample Name: C46963-26 Acquired: 9/2/2016 14:55:40 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0148	365.0	.2189	2.793	.0175	162.8	.0006	.2688	1.094	.7307
Stddev	.0041	.5	.0008	.011	.0002	.2	.0002	.0004	.002	.0048
%RSD	27.54	.1237	.3471	.3830	1.090	.1464	36.30	.1573	.1819	.6541
#1	.0130	364.5	.2181	2.799	.0175	162.5	.0008	.2684	1.092	.7262
#2	.0119	365.2	.2190	2.781	.0173	163.0	.0007	.2687	1.096	.7302
#3	.0194	365.3	.2196	2.799	.0176	162.9	.0004	.2692	1.095	.7357
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	640.6	37.00	206.9	14.06	.0975	188.6	1.364	.3156	-.0076	.0302
Stddev	2.0	.12	.0	.11	.0004	.1	.002	.0026	.0025	.0023
%RSD	.3185	.3318	.0200	.7944	.4189	.0355	.1443	.8287	32.49	7.494
#1	638.4	37.13	206.9	13.95	.0970	188.6	1.363	.3161	-.0065	.0326
#2	641.0	37.00	206.9	14.04	.0975	188.6	1.366	.3179	-.0058	.0282
#3	642.5	36.88	206.9	14.18	.0978	188.5	1.363	.3128	-.0104	.0299
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	8.081	.1839	.9573	7.713	.0055	1.211	1.835			
Stddev	.027	.0017	.0027	.035	.0039	.003	.002			
%RSD	.3312	.9413	.2775	.4484	70.97	.2582	.0808			
#1	8.050	.1831	.9544	7.685	.0100	1.211	1.833			
#2	8.092	.1859	.9578	7.702	.0036	1.208	1.834			
#3	8.100	.1828	.9596	7.752	.0029	1.214	1.836			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2455.7	7979.7	57727.	8057.3						
Stddev	1.0	12.9	243.	19.9						
%RSD	.04270	.16216	.42152	.24687						
#1	2455.2	7978.0	57937.	8058.1						
#2	2456.9	7993.4	57784.	8037.0						
#3	2455.0	7967.7	57460.	8076.7						

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◀ Zoom In ▶
Zoom Out

Sample Name: C46963-28 Acquired: 9/2/2016 15:04:21 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0200	668.0	.1251	6.489	.0214	395.9	.0010	.2618	1.578	.8604
Stddev	.0027	2.4	.0022	.017	.0002	1.5	.0004	.0008	.006	.0027
%RSD	13.38	.3576	1.794	.2645	.7411	.3677	43.02	.2958	.4055	.3118
#1	.0172	666.2	.1252	6.499	.0215	394.7	.0011	.2626	1.579	.8635
#2	.0202	670.7	.1228	6.499	.0212	397.5	.0005	.2617	1.584	.8586
#3	.0226	667.0	.1273	6.469	.0213	395.5	.0013	.2611	1.572	.8591
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	745.0	42.35	310.0	12.74	.0130	74.43	1.214	.5055	-.0113	.0269
Stddev	2.0	.14	.8	.09	.0009	.28	.001	.0044	.0019	.0118
%RSD	.2664	.3383	.2700	.6821	6.836	.3738	.0853	.8631	16.92	43.65
#1	743.7	42.19	309.6	12.66	.0140	74.25	1.214	.5093	-.0135	.0405
#2	747.3	42.46	311.0	12.83	.0125	74.75	1.214	.5007	-.0106	.0205
#3	744.1	42.40	309.5	12.72	.0125	74.30	1.215	.5066	-.0098	.0198
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	7.089	.0339	2.568	7.745	.0029	1.613	1.937			
Stddev	.014	.0010	.008	.013	.0019	.006	.003			
%RSD	.1925	2.888	.2950	.1639	63.84	.3467	.1323			
#1	7.102	.0341	2.563	7.760	.0008	1.618	1.936			
#2	7.075	.0328	2.577	7.735	.0042	1.613	1.936			
#3	7.091	.0347	2.565	7.741	.0038	1.607	1.940			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2417.2	8400.1	60269.	8498.4						
Stddev	10.9	14.7	163.	58.6						
%RSD	.45101	.17505	.27009	.68947						
#1	2428.7	8413.7	60437.	8500.3						
#2	2415.9	8402.1	60112.	8438.9						
#3	2407.0	8384.5	60258.	8556.1						

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◀ Zoom In ▶
Zoom Out

Sample Name: C46963-27 Acquired: 9/2/2016 14:59:51 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280 (Y_3600)	Al3961 (Y_3710)	As1890 (Y_2243)	Ba4554 (Y_3710)	Be3130 (Y_3710)	Ca3179 (Y_3710)	Cd2265 (Y_2243)	Co2286 (Y_2243)	Cr2677 (Y_3600)	Cu3247 (Y_3600)
IS Ref										
Avg	.0171	394.0	.0590	4.177	.0038	1031.	.0002	.1933	.6929	1.081
Stddev	.0005	.7	.0024	.003	.0004	12.	.0002	.0006	.0015	.006
%RSD	3.116	.1681	3.996	.0767	10.27	1.205	66.66	.2939	.2133	.5504
#1	.0166	394.7	.0573	4.181	.0042	1023.	.0002	.1930	.6938	1.079
#2	.0170	393.3	.0617	4.177	.0035	1024.	.0001	.1939	.6938	1.088
#3	.0177	394.1	.0581	4.174	.0036	1045.	.0004	.1930	.6912	1.077
Elem	Fe2599 (Y_3710)	K_7664 (Y_3710)	Mg2790 (Y_3710)	Mn2576 (Y_3600)	Mo2020 (Y_2243)	Na5895 (Y_3710)	Ni2316 (Y_2243)	Pb2203 (In2306)	Sb2068 (Y_2243)	Se1960 (Y_2243)
IS Ref										
Avg	439.8	20.35	189.9	9.173	.0138	28.81	.9102	.2382	-.0049	.0254
Stddev	1.3	.08	.3	.090	.0003	.03	.0020	.0014	.0046	.0049
%RSD	.2951	.3767	.1415	.9763	1.968	.0886	.2235	.6027	95.04	19.22
#1	441.2	20.43	189.9	9.152	.0137	28.79	.9120	.2399	-.0029	.0300
#2	438.6	20.27	189.6	9.272	.0136	28.81	.9080	.2372	-.0102	.0203
#3	439.5	20.34	190.1	9.096	.0141	28.84	.9107	.2376	-.0015	.0261
Elem	Si2124 (Y_2243)	Sn1899 (Y_2243)	Sr4077 (Y_3710)	Ti3349 (Y_3600)	Ti1908 (Y_3600)	V_2924 (Y_2243)	Zn2062 (Y_2243)			
IS Ref										
Avg	3.987	.0167	2.196	14.35	.0099	1.244	1.172			
Stddev	.005	.0001	.005	.15	.0032	.002	.002			
%RSD	.1159	.7230	.2246	1.074	32.52	.1362	.1626			
#1	3.984	.0166	2.201	14.52	.0132	1.245	1.174			
#2	3.985	.0168	2.193	14.29	.0098	1.242	1.172			
#3	3.992	.0168	2.193	14.23	.0067	1.244	1.170			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2417.3	7790.1	55903.	7922.2						
Stddev	1.1	4.9	149.	28.8						
%RSD	.04691	.06269	.26702	.36385						
#1	2416.4	7795.3	55731.	7910.3						
#2	2418.6	7785.7	55989.	7955.1						
#3	2417.1	7789.2	55990.	7901.2						

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◀ Zoom In ▶
Zoom Out

Sample Name: C46963-29 Acquired: 9/2/2016 15:08:32 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0090	278.2	.1078	1.599	.0103	819.1	.0046	.1577	1.010	.4333
Stddev	.0008	.6	.0010	.006	.0004	7.0	.0002	.0003	.005	.0013
%RSD	9.363	.2054	.9337	.3644	3.458	.8539	4.307	.1841	.4962	.3069
#1	.0099	278.0	.1069	1.605	.0104	811.2	.0046	.1578	1.008	.4348
#2	.0082	278.8	.1089	1.599	.0099	824.3	.0045	.1580	1.006	.4330
#3	.0090	277.8	.1076	1.594	.0106	822.0	.0048	.1574	1.016	.4322
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	473.4	12.20	178.0	4.826	.0135	29.53	.9882	.1861	-.0071	.0257
Stddev	.8	.17	.6	.009	.0005	.05	.0011	.0038	.0053	.0089
%RSD	.1771	1.385	.3296	.1814	3.585	.1815	.1102	2.015	74.42	34.58
#1	474.1	12.10	178.0	4.823	.0133	29.56	.9891	.1860	-.0081	.0155
#2	473.7	12.39	178.6	4.820	.0141	29.56	.9870	.1824	-.0014	.0318
#3	472.5	12.10	177.4	4.836	.0132	29.47	.9886	.1899	-.0117	.0297
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	3.664	.0748	1.851	7.135	.0042	.8516	1.081			
Stddev	.010	.0018	.004	.014	.0062	.0024	.002			
%RSD	.2661	2.470	.2048	.2014	146.8	.2826	.1923			
#1	3.667	.0761	1.854	7.139	.0020	.8521	1.083			
#2	3.653	.0756	1.851	7.119	-.0005	.8490	1.079			
#3	3.671	.0727	1.846	7.147	.0112	.8537	1.081			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2446.1	7864.9	57122.	8041.7						
Stddev	2.1	4.2	260.	33.1						
%RSD	.08750	.05329	.45466	.41120						
#1	2447.5	7865.0	57349.	8077.9						
#2	2443.7	7860.7	57179.	8013.0						
#3	2447.2	7869.0	56839.	8034.2						

◀ Zoom In ▶
Zoom Out

Sample Name: C46963-30 Acquired: 9/2/2016 15:12:40 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0100	381.3	.1729	2.520	.0170	155.9	.0029	.2365	1.027	.7623
Stddev	.0009	.2	.0046	.003	.0005	.3	.0005	.0007	.003	.0012
%RSD	9.250	.0553	2.633	.1230	3.003	.1870	18.14	.3023	.2806	.1565

#1	.0089	381.5	.1681	2.524	.0165	156.2	.0033	.2368	1.028	.7610
#2	.0106	381.3	.1733	2.519	.0175	155.8	.0023	.2357	1.030	.7633
#3	.0104	381.1	.1772	2.518	.0170	155.6	.0030	.2371	1.024	.7625

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	654.1	47.59	214.6	8.174	.0418	107.3	1.250	.3349	-.0080	.0261
Stddev	1.2	.16	1.1	.015	.0006	.1	.000	.0056	.0070	.0101
%RSD	.1832	.3438	.5215	.1862	1.337	.0529	.0269	1.662	88.21	38.78

#1	654.6	47.45	215.9	8.179	.0424	107.3	1.250	.3404	-.0036	.0168
#2	655.0	47.77	214.1	8.186	.0415	107.3	1.250	.3293	-.0042	.0247
#3	652.8	47.55	213.9	8.157	.0414	107.2	1.250	.3351	-.0161	.0369

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	13.88	.0284	1.110	3.650	.0008	.9842	1.963
Stddev	.01	.0003	.001	.007	.0013	.0031	.003
%RSD	.0783	.9580	.1238	.1910	153.5	.3111	.1647

#1	13.89	.0287	1.109	3.645	.0005	.9814	1.965
#2	13.88	.0283	1.110	3.658	-.0003	.9875	1.960
#3	13.87	.0282	1.112	3.646	.0022	.9835	1.966

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2479.4	8161.1	59029.	8241.0
Stddev	8.3	23.3	291.	77.3
%RSD	.33345	.28607	.49224	.93751

#1	2479.3	8159.5	59141.	8180.4
#2	2487.8	8185.3	58699.	8214.6
#3	2471.3	8138.7	59247.	8328.0

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Sample Name: C46963-32 Acquired: 9/2/2016 15:20:55 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0070	268.3	.0484	2.714	.0094	181.8	.0031	.2062	.8176	.2649
Stddev	.0017	.6	.0028	.013	.0004	.3	.0004	.0002	.0057	.0011
%RSD	24.16	.2145	5.798	.4747	3.967	.1482	12.69	.0930	.7002	.4078

#1	.0055	268.5	.0452	2.719	.0090	181.9	.0027	.2064	.8187	.2662
#2	.0066	267.6	.0501	2.700	.0094	181.5	.0034	.2060	.8227	.2642
#3	.0088	268.7	.0500	2.724	.0098	182.0	.0031	.2062	.8114	.2644

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	437.2	23.84	114.4	4.472	.0105	113.7	.6247	.2205	-.0071	.0208
Stddev	1.4	.27	.2	.018	.0005	.2	.0033	.0043	.0093	.0014
%RSD	.3102	1.128	.1490	.4111	4.682	.1885	.5216	1.948	129.8	6.554

#1	437.4	23.90	114.6	4.456	.0101	113.8	.6209	.2167	.0031	.0218
#2	435.7	23.55	114.2	4.469	.0104	113.5	.6266	.2252	-.0094	.0214
#3	438.3	24.07	114.3	4.492	.0111	113.8	.6265	.2195	-.0150	.0192

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	10.09	.0457	.7351	7.773	.0011	.6326	1.053
Stddev	.03	.0013	.0026	.018	.0063	.0018	.004
%RSD	.3201	2.779	.3595	.2299	592.2	.2822	.3312

#1	10.05	.0470	.7363	7.755	.0074	.6345	1.049
#2	10.09	.0445	.7321	7.773	.0010	.6325	1.054
#3	10.12	.0455	.7369	7.791	-.0052	.6309	1.056

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2506.9	8063.5	58612.	8149.0
Stddev	2.6	6.7	32.	26.3
%RSD	.10527	.08296	.05394	.32303

#1	2507.6	8071.2	58576.	8157.0
#2	2509.1	8060.0	58634.	8170.5
#3	2503.9	8059.3	58628.	8119.6

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Sample Name: C46963-31 Acquired: 9/2/2016 15:16:43 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0075	283.8	.1162	7.780	.0128	471.2	.0144	.2498	.8408	.4576
Stddev	.0015	.1	.0028	.012	.0004	.5	.0003	.0009	.0033	.0017
%RSD	19.66	.0399	2.438	.1556	3.305	.1166	1.986	.3757	.3963	.3762

#1	.0089	283.9	.1154	7.791	.0124	471.4	.0147	.2506	.8382	.4582
#2	.0075	283.6	.1194	7.767	.0133	470.5	.0141	.2487	.8445	.4589
#3	.0060	283.8	.1139	7.782	.0128	471.5	.0144	.2500	.8395	.4556

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	435.0	32.55	138.3	8.461	.0276	131.1	.8157	.2598	-.0067	.0301
Stddev	.9	.09	.1	.099	.0006	.1	.0009	.0006	.0068	.0026
%RSD	.2045	.2744	.0901	1.169	2.276	.0411	.1134	.2186	101.3	8.516

#1	434.0	32.61	138.1	8.402	.0270	131.1	.8163	.2602	-.0132	.0298
#2	435.8	32.45	138.4	8.575	.0277	131.0	.8161	.2591	-.0071	.0328
#3	435.3	32.59	138.3	8.406	.0282	131.1	.8146	.2600	.0003	.0277

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	5.754	.0254	2.063	6.043	.0056	.7419	1.463
Stddev	.002	.0008	.002	.003	.0019	.0027	.000
%RSD	.0361	3.305	.0987	.0554	34.32	.3606	.0215

#1	5.752	.0256	2.061	6.047	.0043	.7390	1.463
#2	5.753	.0261	2.065	6.041	.0046	.7442	1.464
#3	5.756	.0245	2.063	6.042	.0078	.7425	1.464

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2449.3	8497.2	61763.	8634.7
Stddev	1.8	9.2	104.	14.4
%RSD	.07312	.10865	.16844	.16634

#1	2450.6	8492.5	61883.	8642.7
#2	2447.2	8507.8	61706.	8618.2
#3	2450.0	8491.2	61700.	8643.3

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Sample Name: C46963-34 Acquired: 9/2/2016 15:25:00 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0381	849.0	.0245	1.239	.0009	606.3	-.0043	.3009	.2432	4.562
Stddev	.0015	1.2	.0028	.000	.0003	1.3	.0002	.0009	.0026	.011
%RSD	3.914	.1394	11.28	.0092	33.12	.2114	4.028	.2829	1.073	.2484

#1	.0364	849.8	.0276	1.239	.0013	607.6	-.0044	.3011	.2450	4.570
#2	.0392	849.6	.0222	1.239	.0007	606.4	-.0043	.3000	.2402	4.549
#3	.0388	847.7	.0236	1.239	.0008	605.0	-.0041	.3017	.2443	4.566

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	645.9	54.76	252.7	9.507	.0119	64.48	.4801	.0826	-.0079	.0244
Stddev	1.0	.15	.4	.077	.0006	.17	.0024	.0024	.0131	.0031
%RSD	.1495	.2776	.1771	.8054	4.967	.2600	.5095	2.957	164.4	12.73

#1	647.0	54.61	253.2	9.439	.0112	64.52	.4778	.0799	-.0147	.0266
#2	645.1	54.91	252.4	9.590	.0122	64.62	.4800	.0833	.0071	.0209
#3	645.6	54.77	252.5	9.493	.0122	64.29	.4827	.0846	-.0162	.0258

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	6.462	.0127	1.918	14.79	.0124	2.179	1.058
Stddev	.004	.0003	.004	.04	.0053	.003	.002
%RSD	.0624	2.594	.1869	.2845	42.49	.1172	.1697

#1	6.464	.0127	1.921	14.77	.0185	2.178	1.058
#2	6.457	.0123	1.919	14.76	.0089	2.178	1.056
#3	6.465	.0130	1.914	14.83	.0099	2.182	1.060

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2416.5	7637.0	54432.	7714.2
Stddev	8.5	13.6	134.	63.1
%RSD	.35297	.17811	.24547	.81778

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Zoom Out

Sample Name: C46963-35 Acquired: 9/2/2016 15:29:20 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0124	428.0	.0992	4.050	.0096	718.3	-0.004	-2046	1.292	.6849
Stddev	.0025	.9	.0043	.010	.0002	2.0	.0004	.0008	.001	.0043
%RSD	20.55	.2089	4.362	.2474	2.511	.2785	87.47	.3717	.0725	.6321

#1	.0153	428.7	.0991	4.062	.0093	719.6	-.0000	.2037	1.293	.6883
#2	.0105	427.0	.1035	4.044	.0098	716.0	-.0007	.2048	1.291	.6800
#3	.0113	428.3	.0949	4.046	.0097	719.3	-.0006	.2052	1.292	.6863

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	509.7	25.25	233.9	9.595	.0116	21.43	1.059	.4205	-.0128	-.0246
Stddev	1.6	.04	.8	.032	.0008	.03	.003	.0034	.0019	.0094
%RSD	.3045	.1433	.3459	.3363	7.285	.1305	.2980	.8046	14.94	38.32

#1	510.3	25.24	233.9	9.589	.0124	21.46	1.059	.4210	-.0122	-.0195
#2	507.9	25.29	233.2	9.630	.0114	21.40	1.062	.4236	-.0149	-.0188
#3	510.8	25.22	234.8	9.566	.0108	21.44	1.056	.4169	-.0112	-.0355

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	6.461	.0228	2.134	14.44	.0095	1.192	1.275
Stddev	.017	.0012	.005	.17	.0046	.001	.002
%RSD	.2613	5.160	.2261	1.168	48.72	.0759	.1713

#1	6.447	.0223	2.134	14.54	.0048	1.193	1.273
#2	6.480	.0241	2.129	14.52	.0097	1.191	1.277
#3	6.457	.0220	2.138	14.24	.0140	1.192	1.274

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2431.0	7889.6	56776.	7986.7
Stddev	1.5	14.8	156.	69.5
%RSD	.06175	.18708	.27469	.87022

#1	2429.4	7901.2	56842.	7950.1
#2	2432.3	7873.0	56598.	8066.9
#3	2431.4	7894.6	56888.	7943.2

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Sample Name: CCV Acquired: 9/2/2016 15:37:52 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2564	39.98	2.069	2.029	1.976	39.98	2.044	2.038	2.015	1.963
Stddev	.0010	.06	.004	.006	.003	.09	.004	.004	.003	.007
%RSD	.3949	.1568	.1820	.2821	.1438	.2336	.1804	.1709	.1267	.3572

#1	.2570	40.05	2.073	2.024	1.979	40.06	2.041	2.035	2.017	1.958
#2	.2552	39.95	2.065	2.035	1.974	39.88	2.043	2.037	2.012	1.959
#3	.2569	39.94	2.069	2.027	1.976	40.00	2.048	2.042	2.016	1.971

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.33	41.41	40.66	1.970	1.997	40.61	1.997	1.974	1.987	1.973
Stddev	.05	.16	.18	.009	.005	.08	.005	.002	.002	.007
%RSD	.1246	.3868	.4528	.4813	.2588	.2047	.2342	.1089	.0856	.3667

#1	38.32	41.58	40.76	1.979	1.992	40.70	1.991	1.972	1.985	1.968
#2	38.38	41.26	40.45	1.960	1.997	40.54	1.998	1.976	1.988	1.981
#3	38.29	41.39	40.78	1.971	2.002	40.58	2.000	1.973	1.987	1.970

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.026	2.057	1.999	2.013	1.985	2.036	2.030
Stddev	.004	.005	.001	.004	.003	.006	.005
%RSD	.1741	.2391	.0589	.1751	.1585	.2994	.2714

#1	2.022	2.052	2.001	2.014	1.983	2.041	2.025
#2	2.029	2.055	1.998	2.010	1.989	2.029	2.029
#3	2.028	2.062	1.999	2.017	1.984	2.038	2.036

Check ? Value
Range
None Chk PassChk PassChk PassChk PassChk PassChk Pass

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Sample Name: C46963-36 Acquired: 9/2/2016 15:33:41 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0123	334.2	.1157	9.991	.0121	1287.	.0023	.1624	.9998	.5297
Stddev	.0018	.3	.0029	.021	.0001	21.	.0002	.0008	.0044	.0006
%RSD	15.01	.1018	2.467	.2152	.6935	1.633	9.038	.5108	.4409	.1212

#1	.0103	334.5	.1145	10.01	.0122	1311.	.0024	.1614	.9976	.5297
#2	.0140	334.2	.1136	9.973	.0120	1280.	.0020	.1626	.9969	.5291
#3	.0126	333.8	.1189	9.986	.0120	1270.	.0024	.1630	1.005	.5304

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	510.8	27.84	170.1	5.565	.0172	36.16	.9009	.2393	-.0022	.0248
Stddev	1.0	.33	.2	.026	.0004	.04	.0028	.0066	.0131	.0042
%RSD	.2030	1.177	.1128	.4663	2.332	.1040	.3137	2.774	584.2	16.86

#1	512.0	27.70	170.3	5.546	.0168	36.17	.8978	.2396	.0112	.0203
#2	510.4	27.61	169.9	5.554	.0172	36.19	.9034	.2459	-.0148	.0256
#3	510.0	28.22	170.1	5.594	.0176	36.11	.9014	.2326	-.0031	.0285

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	5.976	.0249	3.112	7.470	.0041	.9399	1.363
Stddev	.011	.0016	.004	.037	.0059	.0022	.002
%RSD	.1824	6.542	.1345	.4974	143.7	.2303	.1225

#1	5.980	.0262	3.116	7.450	.0105	.9395	1.361
#2	5.964	.0231	3.110	7.447	-.0012	.9380	1.363
#3	5.984	.0255	3.108	7.513	.0031	.9422	1.364

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2386.1	7794.6	56992.	7926.1
Stddev	.9	10.8	382.	9.3
%RSD	.03749	.13799	.66995	.11767

#1	2387.0	7797.1	57229.	7934.4
#2	2385.2	7803.9	57195.	7928.0
#3	2386.1	7782.8	56551.	7916.0

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Sample Name: CCV Acquired: 9/2/2016 15:37:52 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2428.1	7202.9	53170.	7193.2
Stddev	3.7	10.0	316.	42.3
%RSD	.15292	.13838	.59377	.58756

#1	2427.7	7213.6	52835.	7233.6
#2	2424.6	7201.1	53462.	7196.7
#3	2432.0	7194.0	53212.	7149.3

Sample Name: CCB		Acquired: 9/2/2016 15:41:56				Type: QC			
Method: 60102007_041712(v273)		Mode: CONC		Corr. Factor: 1.000000					
User: admin		SSTRACE02:		Custom ID2:		Custom ID3:			
Comment:									
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0142	.0011	.0006	.0002	.0059	.0001	.0001	.0004
Stddev	.0004	.0069	.0004	.0002	.0001	.0018	.0000	.0000	.0000
%RSD	368.3	48.52	40.89	35.06	30.71	30.27	39.43	43.72	9.104
#1	-.0003	.0214	.0012	.0006	.0002	.0049	.0001	.0001	.0004
#2	.0004	.0077	.0014	.0004	.0002	.0080	.0001	.0001	.0004
#3	.0002	.0135	.0006	.0009	.0001	.0049	.0000	.0001	.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									
Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0235	.0077	.0050	.0001	F .0021	.0104	.0003	.0001
Stddev	.0004	.0019	.0365	.0054	.0000	.0004	.0055	.0001	.0007
%RSD	141.7	8.059	477.5	108.2	5.211	19.88	53.29	28.89	1282.
#1	-.0002	.0255	.0496	.0039	.0001	.0026	.0166	.0004	-.0003
#2	.0001	.0233	-.0096	.0109	.0001	.0021	.0059	.0004	.0008
#3	-.0007	.0218	-.0170	.0002	.0001	.0018	.0086	.0002	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			
Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	F .0021	.0011	.0000	.0003	.0008	-.0003	.0003	.0001
Stddev	.0011	.0015	.0002	.0002	.0000	.0001	.0004	.0004	.0000
%RSD	32990.	73.99	16.66	634.0	10.30	14.03	161.2	140.4	35.23
#1	.0012	.0005	.0012	.0003	.0002	.0009	-.0005	-.0001	.0001
#2	-.0007	.0035	.0009	-.0001	.0003	.0007	-.0005	.0005	.0001
#3	-.0005	.0023	.0012	-.0001	.0003	.0009	.0002	.0003	.0001
Check ?	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit		.0020							
Low Limit		-.0020							

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Sample Name: CCB		Acquired: 9/2/2016 15:41:56		Type: QC	
Method: 60102007_041712(v273)		Mode: CONC		Corr. Factor: 1.000000	
User: admin		SSTRACE02:		Custom ID2:	
Comment:				Custom ID3:	
Int. Std.	In2306	Y_2243	Y_3600	Y_3710	
Units	Cts/S	Cts/S	Cts/S	Cts/S	
Avg	2713.4	7523.3	54370.	7335.4	
Stddev	10.6	22.4	116.	21.6	
%RSD	.39008	.29784	.21388	.29409	
#1	2715.5	7530.9	54485.	7313.9	
#2	2722.8	7541.0	54252.	7335.2	
#3	2701.9	7498.1	54374.	7357.0	

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Sample Name: C46963-37			Acquired: 9/2/2016 15:46:07			Type: Unk				
Method: 60102007_041712(v273)			Mode: CONC			Corr. Factor: 5.000000				
User: admin			SSTRACE02:			Custom ID2:				
						Custom ID3:				
Comment:										
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0098	256.1	.1281	3.617	.0081	172.5	-.0007	.1898	.9029	.5331
Stddev	.0022	.2	.0023	.015	.0002	.3	.0000	.0006	.0016	.0037
%RSD	22.27	.0619	1.772	.4105	2.090	.1955	4.760	.3270	.1738	.6851
#1	.0098	256.1	.1255	3.631	.0082	172.6	-.0007	.1901	.9045	.5305
#2	.0119	255.9	.1296	3.602	.0081	172.1	-.0008	.1902	.9029	.5314
#3	.0076	256.2	.1293	3.619	.0079	172.7	-.0007	.1891	.9014	.5372
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	486.3	20.22	159.2	4.353	.0370	15.19	.9487	.2076	-.0083	.0210
Stddev	2.0	.08	.3	.008	.0005	.07	.0032	.0012	.0015	.0016
%RSD	.4033	.4001	.2156	.1815	1.236	.4545	.3348	.5770	18.74	7.419
#1	488.4	20.24	159.5	4.352	.0376	15.26	.9518	.2071	-.0081	.0212
#2	484.4	20.29	158.8	4.362	.0367	15.13	.9489	.2066	-.0068	.0194
#3	486.2	20.13	159.3	4.346	.0368	15.16	.9454	.2089	-.0099	.0225
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	9.347	.0242	.8369	11.48	.0030	.9617	1.331			
Stddev	.021	.0002	.0004	.03	.0038	.0010	.001			
%RSD	.2252	.7761	.0512	.2814	124.8	.1083	.0531			
#1	9.360	.0244	.8368	11.46	.0003	.9629	1.332			
#2	9.322	.0240	.8367	11.51	.0015	.9610	1.330			
#3	9.357	.0242	.8374	11.46	.0073	.9612	1.331			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2527.7	7979.3	58116.	7972.2						
Stddev	2.8	2.5	210.	110.1						
%RSD	.11172	.03169	.36093	1.3814						
#1	2530.5	7978.5	57878.	7873.9						
#2	2527.9	7982.1	58195.	8091.2						
#3	2524.8	7977.2	58274.	7951.5						

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Sample Name: C46963-38			Acquired: 9/2/2016 15:50:09			Type: Unk				
Method: 60102007_041712(v273)			Mode: CONC			Corr. Factor: 5.000000				
User: admin			SSTRACE02:			Custom ID2:				
						Custom ID3:				
Comment:										
Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0115	305.1	.1687	3.251	.0124	126.0	.0022	.1678	.9540	.5906
Stddev	.0005	.7	.0025	.005	.0000	.4	.0003	.0004	.0019	.0020
%RSD	4.147	.2352	1.454	.1507	.1772	.3050	14.28	.2668	.2031	.3463
#1	.0110	305.1	.1664	3.246	.0124	126.1	.0023	.1677	.9525	.5896
#2	.0117	305.8	.1683	3.253	.0124	126.2	.0025	.1674	.9562	.5893
#3	.0120	304.3	.1713	3.256	.0124	125.5	.0019	.1683	.9532	.5930
Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	540.0	26.76	176.7	4.195	.0385	154.7	1.066	.2628	-.0066	.0207
Stddev	2.1	.16	.3	.012	.0008	.4	.003	.0045	.0012	.0065
%RSD	.3819	.6067	.1890	.2761	.2174	.2842	.3194	1.715	18.42	31.45
#1	541.7	26.89	176.7	4.193	.0394	155.0	1.067	.2665	-.0069	.0140
#2	540.6	26.82	177.1	4.207	.0383	154.9	1.069	.2641	-.0052	.0213
#3	537.7	26.58	176.5	4.185	.0377	154.2	1.062	.2578	-.0076	.0270
Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062			
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)			
Avg	9.931	.0244	.9258	7.308	.0032	1.033	1.516			
Stddev	.020	.0017	.0041	.006	.0021	.003	.002			
%RSD	.1991	7.093	.4417	.0871	65.66	.3012	.1165			
#1	9.924	.0228	.9282	7.306	.0011	1.034	1.518			
#2	9.953	.0263	.9281	7.315	.0053	1.035	1.517			
#3	9.915	.0241	.9211	7.302	.0033	1.029	1.514			
Int. Std.	In2306	Y_2243	Y_3600	Y_3710						
Avg	2491.8	7864.3	57085.	7868.7						
Stddev	1.9	10.5	368.	38.0						
%RSD	.07543	.13413	.64491	.48285						
#1	2489.9	7866.5	57316.	7847.6						
#2	2493.7	7852.9	56661.	7846.0						
#3	2491.8	7873.7	57279.	7912.6						

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Sample Name: C46963-39 Acquired: 9/2/2016 15:54:11 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3600)	(Y_3600)	
Avg	.0045	.302.2	.0364	7.234	.0104	.1571	.0139	.1584	.8983	.3661
Stddev	.0024	.4	.0033	.026	.0004	10.	.0002	.0002	.0012	.0012
%RSD	53.39	.1259	8.977	.3650	4.239	.6203	1.516	.1043	.1324	.3318

#1	.0030	.302.1	.0327	7.211	.0100	.1565	.0141	.1585	.8997	.3663
#2	.0032	.301.9	.0388	7.227	.0104	.1583	.0137	.1585	.8977	.3673
#3	.0072	.302.6	.0376	7.263	.0108	.1567	.0140	.1582	.8975	.3649

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	400.2	24.00	174.2	4.756	.0092	152.8	.7490	.2130	-.0045	.0119
Stddev	.8	.06	.6	.014	.0003	.1	.0013	.0050	.0032	.0028
%RSD	.1898	.2367	.3587	.3032	3.234	.0689	.1686	2.324	70.56	23.64

#1	399.3	24.05	173.7	4.749	.0096	152.8	.7502	.2129	-.0038	.0087
#2	400.6	23.94	174.0	4.773	.0090	152.7	.7477	.2180	-.0018	.0138
#3	400.6	24.00	174.9	4.747	.0091	152.9	.7491	.2081	-.0080	.0132

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	7.044	.0226	3.581	6.254	-.0034	.6196	1.027
Stddev	.011	.0024	.004	.016	.0042	.0025	.003
%RSD	.1559	10.59	.1102	.2583	126.2	.4046	.3356

#1	7.033	.0199	3.578	6.249	-.0072	.6168	1.025
#2	7.055	.0237	3.581	6.272	-.0012	.6216	1.026
#3	7.045	.0244	3.585	6.241	-.0040	.6204	1.031

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2336.2	8370.5	61014.	8534.2
Stddev	7.5	22.8	161.	59.9
%RSD	.32152	.27235	.26417	.70218

#1	2328.3	8371.1	61198.	8601.7
#2	2343.3	8393.0	60946.	8487.4
#3	2337.2	8347.4	60897.	8513.3

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◀ Zoom In ▶
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Sample Name: C46963-40 Acquired: 9/2/2016 15:58:23 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0250	.621.0	.0706	2.760	.0028	825.4	-.0025	.3853	.7413	1.313
Stddev	.0012	1.2	.0013	.008	.0000	2.2	.0004	.0004	.0013	.002
%RSD	4.741	.1960	1.875	.2828	1.106	.2701	15.22	.1145	.1797	.1535

#1	.0244	.622.3	.0691	2.757	.0028	827.9	-.0026	.3856	.7401	1.311
#2	.0242	.620.0	.0711	2.754	.0028	823.6	-.0021	.3854	.7427	1.313
#3	.0264	.620.7	.0717	2.769	.0028	824.7	-.0028	.3848	.7411	1.314

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	575.3	37.20	241.3	15.21	.0137	40.09	1.051	.3660	-.0064	.0190
Stddev	1.2	.16	.5	.12	.0005	.08	.002	.0004	.0038	.0021
%RSD	.2144	.4320	.2262	.8076	3.584	.1881	.2257	.1199	59.59	11.07

#1	575.7	37.39	241.9	15.09	.0133	40.17	1.050	.3656	-.0041	.0189
#2	573.9	37.11	241.2	15.33	.0136	40.07	1.053	.3665	-.0108	.0211
#3	576.2	37.11	240.8	15.21	.0143	40.03	1.049	.3658	-.0042	.0169

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	6.178	.0188	1.975	19.13	.0199	1.777	1.213
Stddev	.018	.0010	.006	.10	.0051	.005	.003
%RSD	.2978	5.537	.3163	.5165	25.82	.2999	.2290

#1	6.166	.0198	1.981	19.06	.0221	1.771	1.210
#2	6.168	.0178	1.969	19.08	.0236	1.779	1.214
#3	6.199	.0189	1.975	19.24	.0140	1.781	1.215

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2422.0	7702.5	55972.	7798.3
Stddev	2.0	14.2	27.	31.6
%RSD	.08299	.18444	.04863	.40464

#1	2420.9	7690.7	55972.	7810.8
#2	2420.9	7698.6	55944.	7762.5
#3	2424.4	7718.3	55999.	7821.8

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◀ Zoom In ▶
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Sample Name: C46963-42 Acquired: 9/2/2016 16:06:53 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0166	.321.3	.0445	1.350	.0101	1387.	.0046	.2318	1.082	.5447
Stddev	.0016	1.2	.0016	.007	.0003	7.	.0002	.0001	.003	.0010
%RSD	9.865	.3720	3.651	.5554	2.985	.4694	3.733	.0339	.2986	.1806

#1	.0167	.320.4	.0454	1.347	.0104	1380.	.0046	.2317	1.080	.5436
#2	.0149	.322.7	.0455	1.359	.0098	1392.	.0044	.2319	1.080	.5450
#3	.0181	.320.8	.0426	1.346	.0101	1389.	.0047	.2319	1.085	.5455

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	398.0	20.36	175.0	4.635	.0066	32.25	1.079	.1945	-.0065	.0337
Stddev	2.0	.24	.4	.009	.0007	.08	.001	.0027	.0050	.0053
%RSD	.4909	1.180	.2547	.1994	10.49	.2625	.1199	1.413	77.94	15.84

#1	396.8	20.49	175.3	4.646	.0067	32.20	1.079	.1917	-.0123	.0399
#2	400.3	20.08	175.3	4.632	.0073	32.34	1.080	.1972	-.0030	.0301
#3	396.9	20.51	174.5	4.628	.0059	32.19	1.077	.1946	-.0042	.0312

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	5.011	.0293	2.753	10.87	-.0034	.9005	1.340
Stddev	.010	.0007	.009	.03	.0049	.0023	.002
%RSD	.1907	2.474	.3355	.2615	145.0	.2609	.1642

#1	5.000	.0286	2.752	10.90	.0015	.9026	1.342
#2	5.015	.0295	2.763	10.85	-.0084	.8980	1.341
#3	5.018	.0300	2.744	10.85	-.0034	.9009	1.338

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2374.2	7928.5	57496.	8005.6
Stddev	3.1	16.	130.	22.0
%RSD	.13218	.20890	.22691	.27460

#1	2373.7	7911.2	57348.	8025.5
#2	2371.3	7930.2	57592.	8009.2
#3	2377.5	7944.2	57549.	7982.0

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Sample Name: C46963-43 Acquired: 9/2/2016 16:11:04 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Avg	.0118	288.6	.1299	3.105	.0102	196.6	.0015	.2084	1.054	.5955
Stddev	.0030	.1	.0033	.015	.0003	.3	.0001	.0012	.003	.0046
%RSD	25.39	.0424	2.563	.4742	2.824	.1592	7.608	.5762	.2349	.7682
#1	.0131	288.5	.1270	3.094	.0100	196.7	.0015	.2070	1.056	.5902
#2	.0084	288.7	.1335	3.122	.0100	197.0	.0015	.2091	1.054	.5979
#3	.0140	288.6	.1292	3.099	.0105	196.3	.0017	.2090	1.051	.5983

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	531.1	19.28	171.5	3.851	.0304	14.17	1.056	.2330	-.0055	.0211
Stddev	1.8	.07	.3	.009	.0010	.04	.002	.0040	.0033	.0052
%RSD	.3315	.3755	.1831	.2434	3.415	.2656	.1993	1.734	60.22	24.57
#1	530.2	19.20	171.4	3.862	.0295	14.15	1.055	.2373	-.0017	.0260
#2	533.1	19.30	171.9	3.846	.0315	14.21	1.054	.2325	-.0079	.0218
#3	530.0	19.34	171.3	3.846	.0302	14.15	1.058	.2293	-.0070	.0157

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	10.34	.1361	.8404	9.069	.0037	1.057	1.542
Stddev	.01	.0007	.0010	.007	.0036	.001	.002
%RSD	.0698	.5255	.1138	.0790	97.41	.0475	.1233
#1	10.34	.1359	.8415	9.076	-.0002	1.057	1.541
#2	10.33	.1355	.8397	9.067	.0044	1.057	1.542
#3	10.33	.1369	.8400	9.062	.0068	1.056	1.544

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2515.7	8077.4	58873.	8004.6
Stddev	4.0	15.9	242.	78.3
%RSD	.15730	.19708	.41155	.97827
#1	2516.0	8095.0	58635.	8029.2
#2	2519.4	8073.3	58864.	7916.9
#3	2511.5	8063.9	59120.	8067.6

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Sample Name: CCV Acquired: 9/2/2016 16:27:37 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2553	39.68	2.038	2.039	1.972	39.73	2.023	2.017	2.009	1.977
Stddev	.0009	.13	.011	.004	.005	.12	.003	.002	.005	.009
%RSD	.3620	.3367	.5287	.2107	.2663	.3095	.1410	.0926	.2432	.4493
#1	.2562	39.79	2.032	2.035	1.976	39.85	2.020	2.016	2.012	1.976
#2	.2554	39.53	2.032	2.044	1.966	39.60	2.022	2.017	2.003	1.968
#3	.2543	39.73	2.051	2.038	1.973	39.73	2.026	2.020	2.011	1.986

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.36	40.98	39.97	2.007	1.989	40.34	1.997	1.973	1.981	1.983
Stddev	.04	.25	.10	.017	.004	.10	.002	.003	.006	.002
%RSD	.0953	.6213	.2584	.8593	.2048	.2502	.0921	.1455	.2973	.0821
#1	38.39	41.19	40.05	2.020	1.985	40.44	1.999	1.970	1.984	1.982
#2	38.38	40.70	39.85	2.014	1.988	40.24	1.998	1.973	1.974	1.985
#3	38.32	41.05	40.00	1.987	1.993	40.33	1.995	1.976	1.984	1.983

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.027	2.024	2.006	2.027	1.993	2.021	2.014
Stddev	.002	.004	.004	.004	.002	.002	.002
%RSD	.0938	.1903	.2232	.1997	.0920	.0724	.1020
#1	2.028	2.020	2.010	2.027	1.991	2.022	2.012
#2	2.027	2.024	2.001	2.023	1.993	2.019	2.014
#3	2.024	2.028	2.006	2.031	1.995	2.021	2.016

Check ? None Chk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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Sample Name: CCV Acquired: 9/2/2016 16:27:37 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2460.6	7360.6	53794.	7339.3
Stddev	5.0	15.7	258.	74.1
%RSD	.20523	.21393	.47890	1.0091
#1	2466.1	7377.9	53542.	7263.6
#2	2459.5	7357.0	54057.	7342.7
#3	2456.1	7347.0	53783.	7411.6

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Sample Name: CCB Acquired: 9/2/2016 16:31:41 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0124	.0016	.0005	.0003	.0079	.0001	.0000	.0005
Stddev	.0003	.0024	.0004	.0000	.0000	.0011	.0000	.0001	.0002
%RSD	1084.	19.26	24.51	3.620	13.32	13.50	19.16	159.7	48.21
#1	.0001	.0138	.0016	.0005	.0003	.0091	.0001	.0000	.0003
#2	.0003	.0137	.0012	.0005	.0003	.0077	.0001	.0000	.0004
#3	-.0003	.0096	.0019	.0005	.0003	.0070	.0002	.0001	.0007

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	.0223	.0282	.0011	.0001	F.0023	.0289	.0003	.0007
Stddev	.0001	.0039	.0147	.0094	.0000	.0005	.0071	.0002	.0003
%RSD	20.30	17.40	52.09	836.6	29.67	22.98	24.67	75.51	50.39
#1	-.0005	.0264	.0248	.0112	.0001	.0028	.0246	.0006	.0009
#2	-.0008	.0219	.0155	-.0005	.0002	.0023	.0251	.0003	.0008
#3	-.0006	.0187	.0443	-.0073	.0001	.0018	.0372	.0001	.0003

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0015	.0000	.0007	.0003	.0009	.0007	.0002	.0001
Stddev	.0010	.0015	.000	.0010	.0001	.0002	.0009	.0003	.0000
%RSD	3514.	99.44	70.65	146.0	16.90	18.25	142.2	141.4	54.21
#1	-.0009	.0018	.0000	.0018	.0003	.0010	.0013	.0002	.0001
#2	-.0001	-.0001	.0000	.0000	.0004	.0011	.0011	.0004	.0001
#3	.0011	.0029	.0000	.0002	.0003	.0007	-.0004	-.0001	.0000

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCB Acquired: 9/2/2016 16:31:41 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2741.2	7582.9	55232.	7371.0
Stddev	7.8	8.5	132.	23.5
%RSD	.28503	.11175	.23817	.31821

#1	2747.9	7592.4	55106.	7344.0
#2	2732.6	7580.1	55220.	7383.4
#3	2743.0	7576.1	55369.	7385.7

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Sample Name: MP30794-MB1 Acquired: 9/2/2016 16:57:25 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2699.3	7461.6	55141.	7366.3
Stddev	6.6	14.7	264.	17.1
%RSD	.24542	.19714	.47834	.23145

#1	2707.0	7477.4	55309.	7346.7
#2	2695.2	7448.3	54837.	7377.7
#3	2695.7	7459.2	55277.	7374.6

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Sample Name: MP30794-MB1 Acquired: 9/2/2016 16:57:25 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	.0020	.0008	.0005	.0001	.0237	.0000	-.0001	.0014	-.0007
Stddev	.0004	.0036	.0005	.0001	.0000	.0041	.000	.0000	.0001	.0002
%RSD	82.65	179.5	60.72	19.50	44.83	17.30	206.8	32.87	4.824	26.95

#1	-.0002	.0060	.0006	.0006	.0001	.0274	.0000	-.0002	.0013	-.0005
#2	-.0010	.0012	.0013	.0004	.0001	.0193	.0000	-.0002	.0014	-.0006
#3	-.0003	-.0011	.0004	.0004	.0001	.0244	.0000	-.0001	.0014	-.0008

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0226	.0510	-.0037	.0001	.0005	.0830	.0001	.0000	.0000	.0004
Stddev	.0047	.0231	.0197	.0000	.0001	.0089	.0002	.0006	.0009	.0013
%RSD	20.56	45.22	540.5	30.92	21.84	10.68	147.0	4318.	2439.	351.6

#1	.0279	.0750	-.0207	.0002	.0005	.0864	.0004	-.0007	.0010	.0005
#2	.0209	.0291	-.0082	.0001	.0006	.0897	.0001	.0004	-.0005	-.0010
#3	.0191	.0488	.0179	.0002	.0004	.0730	-.0001	.0004	-.0004	.0016

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0050	.0222	.0002	.0006	.0007	.0002	.0017
Stddev	.0004	.0002	.0000	.0001	.0006	.0003	.0000
%RSD	8.343	.8524	22.75	12.63	84.65	192.1	2.048

#1	.0045	.0222	.0002	.0007	.0014	-.0002	.0017
#2	.0054	.0224	.0002	.0007	.0003	.0005	.0018
#3	.0051	.0220	.0002	.0005	.0004	.0002	.0017

Check ? None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: MP30794-B1 Acquired: 9/2/2016 17:01:37 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0478	27.22	2.033	2.108	.0515	25.80	.0511	.5113	.2072	.2532
Stddev	.0006	.04	.002	.008	.0002	.04	.0001	.0007	.0007	.0010
%RSD	1.355	.1411	.0970	.3668	.4085	.1569	.2377	.1308	.3500	.4010

#1	.0485	27.18	2.033	2.109	.0512	25.75	.0511	.5114	.2077	.2544
#2	.0473	27.25	2.030	2.116	.0516	25.82	.0513	.5119	.2063	.2526
#3	.0475	27.22	2.034	2.100	.0516	25.83	.0511	.5106	.2074	.2526

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	26.23	26.49	25.53	.5156	.5147	25.75	.5091	.4926	.4941	1.988
Stddev	.11	.06	.008	.0025	.0004	.04	.0008	.0006	.0034	.006
%RSD	.4102	.2381	.3125	.4797	.0869	.1463	.1616	.1204	.6850	.2820

#1	26.12	26.55	25.47	.5184	.5142	25.72	.5093	.4931	.4903	1.984
#2	26.34	26.42	25.49	.5137	.5149	25.79	.5097	.4929	.4952	1.994
#3	26.24	26.50	25.62	.5148	.5150	25.73	.5081	.4920	.4969	1.985

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0116	.5422	.5038	.5221	1.970	.4945	.5085
Stddev	.0005	.0017	.0014	.0024	.002	.0017	.0011
%RSD	4.468	.3103	.2722	.4567	.0803	.3525	.2099

#1	.0117	.5430	.5023	.5247	1.972	.4953	.5082
#2	.0110	.5434	.5051	.5200	1.969	.4925	.5097
#3	.0121	.5403	.5039	.5216	1.969	.4958	.5077

Check ? None Chk Pass None None Chk Pass Chk Pass Chk Pass
Value
Range

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Sample Name: MP30794-B1 Acquired: 9/2/2016 17:01:37 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2497.9	7277.2	53209.	7284.3
Stddev	6.4	18.1	194.	53.8
%RSD	.25817	.24861	.36510	.73919

#1	2494.8	7279.4	53164.	7246.1
#2	2493.6	7258.1	53422.	7345.9
#3	2505.3	7294.0	53041.	7261.0

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Sample Name: MP30794-D1 Acquired: 9/2/2016 17:09:47 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3600)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0079	299.9	.1097	2.775	.0064	105.8	-.0029	.1707	.7589	.3870
Stddev	.0017	.8	.0041	.001	.0001	.4	.0001	.0008	.0021	.0021
%RSD	21.16	.2603	3.777	.0342	1.033	.3554	1.759	.4474	.2712	.5491

#1	.0060	300.8	.1062	2.773	.0065	106.3	-.0030	.1709	.7567	.3846
#2	.0090	299.5	.1143	2.775	.0064	105.6	-.0029	.1714	.7608	.3885
#3	.0086	299.4	.1086	2.775	.0065	105.6	-.0029	.1699	.7593	.3880

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	431.6	38.58	128.0	7.685	.0117	13.34	.6519	.1821	-.0077	.0154
Stddev	.3	.15	.5	.010	.0008	.09	.0008	.0029	.0045	.0017
%RSD	.0744	.3843	.3796	.1314	6.599	.6563	.1235	1.616	58.87	11.00

#1	431.8	38.75	128.5	7.675	.0118	13.43	.6513	.1806	-.0031	.0145
#2	431.7	38.49	127.7	7.684	.0109	13.26	.6515	.1855	-.0078	.0173
#3	431.2	38.50	127.7	7.695	.0124	13.33	.6528	.1803	-.0121	.0143

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.487	.0167	.9587	16.16	.0162	.9378	1.089
Stddev	.002	.0015	.0008	.13	.0034	.0035	.001
%RSD	.0837	8.915	.0837	.8076	20.69	.3755	.1045

#1	2.486	.0180	.9596	16.02	.0133	.9377	1.088
#2	2.489	.0151	.9582	16.28	.0199	.9414	1.088
#3	2.485	.0169	.9583	16.17	.0155	.9343	1.090

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2587.9	7964.7	57762.	7927.5
Stddev	3.5	9.7	400.	31.6
%RSD	.13492	.12176	.69253	.39895

#1	2591.9	7975.3	58169.	7892.9
#2	2586.3	7962.6	57369.	7934.6
#3	2585.6	7956.3	57747.	7955.0

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Sample Name: FA36290-1R Acquired: 9/2/2016 17:05:34 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0080	289.7	.1167	2.742	.0066	127.2	-.0028	.1667	.7487	.3863
Stddev	.0006	.4	.0025	.010	.0004	.2	.0002	.0006	.0042	.0013
%RSD	7.884	.1487	2.114	.3549	5.397	.1956	8.302	.3866	.5589	.3323

#1	.0073	289.3	.1193	2.749	.0070	127.0	-.0026	.1672	.7534	.3862
#2	.0086	289.6	.1163	2.731	.0063	127.1	-.0029	.1660	.7472	.3851
#3	.0080	290.2	.1144	2.746	.0066	127.5	-.0030	.1668	.7454	.3877

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	432.8	38.28	129.3	8.480	.0135	13.28	.6493	.1834	-.0009	.0331
Stddev	1.0	.21	.7	.053	.0007	.04	.0006	.0046	.0041	.0037
%RSD	.2384	.5463	.5293	.6200	5.000	.2675	.0874	2.492	441.4	11.03

#1	432.3	38.04	128.8	8.519	.0130	13.25	.6499	.1823	-.0048	.0354
#2	432.1	38.43	129.1	8.420	.0133	13.27	.6489	.1884	.0034	.0289
#3	434.0	38.37	130.1	8.501	.0143	13.32	.6490	.1794	-.0014	.0350

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.242	.0158	1.073	15.77	.0224	.9420	1.086
Stddev	.010	.0003	.001	.20	.0048	.0048	.001
%RSD	.4261	1.875	.0835	1.238	21.24	.5062	.1173

#1	2.250	.0161	1.073	15.96	.0263	.9474	1.087
#2	2.244	.0155	1.073	15.80	.0238	.9394	1.087
#3	2.231	.0157	1.074	15.57	.0171	.9390	1.085

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2588.5	7985.0	57491.	7903.2
Stddev	6.0	6.2	257.	67.2
%RSD	.23002	.07764	.44617	.85082

#1	2582.4	7990.6	57247.	7948.4
#2	2594.3	7986.0	57467.	7935.3
#3	2588.9	7978.3	57759.	7826.0

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Sample Name: MP30794-SD1 Acquired: 9/2/2016 17:13:59 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 25.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0021	315.9	.1290	2.969	.0071	137.8	-.0024	.1838	.8121	.4002
Stddev	.0114	.4	.0289	.010	.0012	.5	.0003	.0007	.0031	.0046
%RSD	534.3	.1304	22.40	.3506	17.31	.3398	10.99	.3851	.3766	1.143

#1	.0141	315.9	.1337	2.970	.0083	138.3	-.0026	.1842	.8095	.4026
#2	-.0086	316.3	.1552	2.958	.0058	137.7	-.0024	.1841	.8113	.4031
#3	-.0009	315.4	.0980	2.979	.0072	137.4	-.0021	.1830	.8154	.3950

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	469.6	42.36	140.9	9.039	.0135	14.62	.7087	.1729	-.0094	.0549
Stddev	.2	.68	.8	.010	.0009	.20	.0008	.0134	.0152	.0354
%RSD	.0512	1.614	.5750	.1149	6.518	1.390	.1166	7.756	162.2	64.60

#1	469.4	41.57	141.8	9.041	.0125	14.73	.7089	.1884	-.0176	.0326
#2	469.8	42.74	140.3	9.028	.0138	14.74	.7079	.1647	.0082	.0363
#3	469.5	42.77	140.5	9.049	.0142	14.39	.7095	.1657	-.0187	.0957

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	9.463	.0152	1.158	16.95	.0086	1.017	1.293
Stddev	.172	.0032	.005	.01	.0345	.007	.004
%RSD	1.819	20.91	.3973	.0492	399.3	.6793	.3347

#1	9.288	.0162	1.153	16.95	-.0298	1.025	1.289
#2	9.469	.0179	1.161	16.94	.0189	1.012	1.295
#3	9.632	.0117	1.161	16.95	.0368	1.014	1.297

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2700.7	7673.0	56060.	7494.6
Stddev	2.0	7.3	271.	69.9
%RSD	.07423	.09530	.48364	.93260

#1	2700.3	7679.8	56033.	7416.2
#2	2698.9	7665.2	56343.	7550.3
#3	2702.9	7673.9	55803.	7517.4

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Sample Name: CCV Acquired: 9/2/2016 17:18:01 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2554	39.78	2.070	2.037	1.967	39.71	2.044	2.038	2.012	1.970
Stddev	.0010	.07	.002	.007	.006	.09	.001	.003	.002	.001
%RSD	.4015	.1730	.0741	.3681	.2900	.2310	.0552	.1217	.1214	.0229
#1	2546	39.85	2.070	2.030	1.974	39.81	2.044	2.038	2.011	1.970
#2	2550	39.78	2.068	2.045	1.965	39.69	2.042	2.036	2.015	1.969
#3	2565	39.71	2.072	2.035	1.963	39.63	2.044	2.041	2.011	1.970

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	37.96	41.92	40.12	1.986	2.003	40.64	2.003	1.977	2.006	1.998
Stddev	.04	.07	.17	.023	.003	.06	.001	.003	.004	.005
%RSD	.1050	.1736	.4230	1.146	.1525	.1393	.0444	.1580	.1965	.2570
#1	37.95	41.99	40.17	1.960	2.001	40.70	2.002	1.975	2.007	1.996
#2	38.01	41.91	40.26	2.001	2.001	40.64	2.004	1.976	2.002	1.995
#3	37.93	41.85	39.93	1.997	2.006	40.59	2.004	1.980	2.010	2.004

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.048	2.051	2.006	2.014	1.992	2.030	2.027
Stddev	.004	.003	.003	.006	.002	.003	.001
%RSD	.1777	.1292	.1666	.2805	.1032	.1504	.0452
#1	2.047	2.053	2.009	2.016	1.991	2.031	2.028
#2	2.045	2.048	2.005	2.007	1.992	2.033	2.026
#3	2.052	2.053	2.002	2.018	1.995	2.027	2.028

Check ? None Chk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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Sample Name: CCB Acquired: 9/2/2016 17:22:06 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0037	.0009	.0004	.0002	.0040	.0000	.0000	.0002
Stddev	.0004	.0046	.0005	.0001	.0001	.0034	.0001	.0001	.0002
%RSD	88.30	124.3	59.45	27.74	29.69	84.25	282.1	7602.	91.21
#1	-.0002	-.0005	.0003	.0003	.0001	.0003	.0000	.0000	.0002
#2	-.0002	.0086	.0012	.0005	.0002	.0069	.0001	.0000	.0004
#3	-.0009	.0030	.0012	.0003	.0001	.0048	.0000	-.0001	.0000

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	.0210	.0354	-.0013	.0000	F.0022	.0172	.0003	.0001
Stddev	.0001	.0046	.0192	.0139	.0000	.0004	.0052	.0001	.0003
%RSD	24.69	21.75	54.28	1041.	73.35	19.27	30.15	35.89	388.5
#1	-.0005	.0263	.0396	-.0076	.0000	.0027	.0134	.0003	-.0001
#2	-.0007	.0182	.0144	-.0110	.0001	.0022	.0151	.0003	.0004
#3	-.0004	.0185	.0521	.0146	.0001	.0018	.0231	.0002	-.0001

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0004	.0006	.0002	.0003	.0010	-.0003	.0003	.0001
Stddev	.0009	.0021	.0003	.0003	.0001	.0001	.0004	.0002	.0000
%RSD	153.5	479.3	51.02	127.7	31.50	8.518	165.9	50.43	61.99
#1	.0016	.0017	.0003	.0005	.0002	.0010	-.0001	.0003	.0001
#2	.0004	-.0020	.0009	.0000	.0004	.0010	-.0008	.0002	.0001
#3	-.0002	.0016	.0005	.0001	.0002	.0009	.0001	.0005	.0000

Check ? Chk Pass Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCV Acquired: 9/2/2016 17:18:01 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2461.4	7314.0	53710.	7356.3
Stddev	5.3	6.0	135.	19.6
%RSD	.21548	.08219	.25067	.26629
#1	2465.0	7315.4	53695.	7377.3
#2	2464.0	7319.2	53583.	7338.5
#3	2455.3	7307.4	53851.	7353.1

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Sample Name: CCB Acquired: 9/2/2016 17:22:06 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2745.8	7592.5	55492.	7453.3
Stddev	3.6	15.0	276.	16.7
%RSD	.13170	.19808	.49721	.22438
#1	2747.4	7594.7	55811.	7436.7
#2	2741.7	7606.4	55329.	7470.1
#3	2748.5	7576.5	55336.	7453.0

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Sample Name: MP30794-PS1 Acquired: 9/2/2016 17:26:16 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0540	.309.8	.2202	3.166	.0541	139.4	.0451	.2251	.8385	.5057
Stddev	.0032	.7	.0022	.012	.0006	.5	.0003	.0010	.0018	.0006
%RSD	6.002	.2418	.9881	.3635	1.172	.3281	.5682	.4512	.2189	.1211

#1	.0513	.309.3	.2197	3.159	.0539	139.0	.0449	.2261	.8365	.5055
#2	.0531	.309.4	.2226	3.161	.0548	139.1	.0454	.2250	.8390	.5052
#3	.0576	.310.6	.2184	3.180	.0535	139.9	.0451	.2241	.8401	.5064

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	461.8	50.32	141.1	8.819	.1094	23.54	.7795	2450	.0896	.1162
Stddev	1.4	.23	.4	.058	.0008	.04	.0026	.0025	.0048	.0085
%RSD	.2963	.4607	.3145	.6571	.6874	.1750	.3399	1.038	5.410	7.342

#1	460.7	50.18	140.7	8.757	.1086	23.51	.7778	.2434	.0845	.1213
#2	461.3	50.19	141.1	8.828	.1100	23.58	.7780	.2479	.0902	.1063
#3	463.3	50.58	141.6	8.871	.1096	23.52	.7825	.2436	.0941	.1209

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.383	.0644	1.187	16.65	.1119	1.038	1.391
Stddev	.007	.0002	.003	.27	.0028	.001	.003
%RSD	.2864	.2898	.2782	1.644	2.523	.1182	.2371

#1	2.377	.0644	1.186	16.49	.1087	1.040	1.390
#2	2.382	.0643	1.184	16.49	.1131	1.037	1.388
#3	2.390	.0646	1.190	16.96	.1139	1.038	1.394

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2557.1	7953.3	57819.	7915.8
Stddev	3.9	20.1	413.	77.0
%RSD	.15428	.25328	.71422	.97284

#1	2554.3	7950.2	58287.	8002.0
#2	2561.6	7974.8	57665.	7891.7
#3	2555.4	7934.9	57505.	7853.7

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Sample Name: MP30794-S2 Acquired: 9/2/2016 17:34:50 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0564	.370.3	1.990	5.069	.0546	168.9	.0450	.6548	.9930	.6664
Stddev	.0022	1.2	.008	.020	.0001	.8	.0000	.0002	.0034	.0032
%RSD	3.817	.3255	.4025	.3945	.2445	.4496	.0574	.0378	.3387	.4767

#1	.0586	.371.7	1.984	5.088	.0547	169.8	.0450	.6546	.9943	.6681
#2	.0543	.369.7	1.999	5.071	.0544	168.5	.0450	.6547	.9892	.6627
#3	.0563	.369.6	1.988	5.048	.0546	168.4	.0451	.6551	.9955	.6684

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	484.4	69.24	164.6	10.32	.4271	39.08	1.157	.6899	.0851	1.825
Stddev	2.6	.52	.4	.07	.0011	.13	.001	.0032	.0055	.019
%RSD	.5292	.7469	.2671	.6327	.2506	.3250	.1092	.4637	6.479	1.028

#1	487.4	69.83	165.1	10.31	.4284	39.23	1.158	.6916	.0851	1.837
#2	482.9	68.86	164.5	10.27	.4265	39.02	1.156	.6862	.0796	1.803
#3	483.0	69.03	164.3	10.40	.4266	38.99	1.158	.6919	.0906	1.834

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.962	.4785	1.674	18.41	1.948	1.482	1.701
Stddev	.006	.0017	.011	.09	.008	.004	.001
%RSD	.2091	.3578	.6653	.5159	.4095	.2331	.0707

#1	2.957	.4780	1.687	18.30	1.942	1.484	1.702
#2	2.969	.4771	1.666	18.42	1.946	1.478	1.700
#3	2.961	.4804	1.668	18.49	1.957	1.483	1.702

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2540.7	7907.3	58184.	7901.9
Stddev	7.0	7.7	109.	63.2
%RSD	.27463	.09702	.18809	.79946

#1	2536.1	7903.9	58067.	7829.5
#2	2548.8	7916.1	58285.	7930.0
#3	2537.3	7901.9	58199.	7946.1

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Sample Name: MP30794-S1 Acquired: 9/2/2016 17:30:35 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0554	.377.9	1.877	5.007	.0521	155.4	.0420	.6379	1.024	.6679
Stddev	.0029	.1	.001	.006	.0000	.2	.0001	.0002	.002	.0022
%RSD	5.209	.0287	.0542	.1266	.0291	.1287	.2343	.0369	.1994	.3353

#1	.0529	.378.0	1.878	5.013	.0521	155.6	.0420	.6378	1.023	.6695
#2	.0547	.377.8	1.877	5.007	.0521	155.2	.0420	.6378	1.023	.6653
#3	.0586	.377.9	1.877	5.000	.0521	155.5	.0418	.6382	1.027	.6689

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	500.4	68.16	168.1	9.655	.4008	38.26	1.171	.6784	.0772	1.715
Stddev	1.1	.14	1.0	.052	.0001	.06	.002	.0069	.0041	.016
%RSD	.2155	.2082	.5947	5.404	.0186	.1649	.1952	1.022	5.368	.9351

#1	501.0	68.31	167.7	9.699	.4008	38.33	1.169	.6835	.0737	1.697
#2	501.1	68.03	167.3	9.597	.4007	38.20	1.171	.6813	.0818	1.721
#3	499.2	68.14	169.2	9.669	.4008	38.24	1.173	.6705	.0762	1.727

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.841	.4504	1.604	19.14	1.849	1.494	1.670
Stddev	.009	.0010	.001	.03	.007	.003	.004
%RSD	.2998	.2251	.0785	.1507	.3972	.2101	.2521

#1	2.836	.4516	1.605	19.18	1.854	1.497	1.669
#2	2.837	.4501	1.602	19.13	1.853	1.494	1.666
#3	2.851	.4496	1.604	19.13	1.841	1.491	1.674

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2533.7	7938.6	57837.	7979.2
Stddev	2.5	14.2	188.	43.2
%RSD	.09764	.17901	.32438	.54116

#1	2532.4	7955.0	57641.	7930.4
#2	2532.2	7931.7	58014.	7994.7
#3	2536.6	7929.2	57856.	8012.4

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Sample Name: FA36290-2R Acquired: 9/2/2016 17:39:05 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0096	.350.1	.1269	3.355	.0081	113.4	.0029	.1947	.8542	.4500
Stddev	.0010	.5	.0027	.018	.0002	.2	.0001	.0006	.0026	.0034
%RSD	9.927	.1481	2.105	.5396	2.351	.2037	3.229	.2981	.3016	.7543

#1	.0092	.350.7	.1245	3.362	.0081	113.7	.0030	.1944	.8513	.4488
#2	.0089	.349.9	.1264	3.369	.0078	113.3	.0028	.1943	.8563	.4474
#3	.0107	.349.8	.1297	3.335	.0082	113.3	.0029	.1953	.8550	.4539

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	480.3	41.15	142.2	10.43	.0145	12.36	.7529	.2043	.0152	.0174
Stddev	.5	.16	.8	.12	.0004	.02	.0018	.0011	.0022	.0071
%RSD	.1095	.3787	.5583	1.145	2.502	.1713	.2420	.5446	14.53	40.99

#1	480.8	41.33	143.1	10.57	.0148	12.38	.7543	.2052	.0163	.0136
#2	480.4	41.05	141.8	10.36	.0141	12.34	.7508	.2031	.0167	.0257
#3	479.8	41.08	141.6	10.36	.0146	12.35	.7537	.2047	.0127	.0131

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.612	.0177	1.020	18.15	.0216	1.063	1.195
Stddev	.004	.0018	.003	.12	.0071	.004	.003
%RSD	.1593	9.978	.2452	.6460	32.77	.3477	.2643

#1	2.607	.0164	1.022	18.21	.0156	1.059	1.192
#2	2.613	.0197	1.017	18.23	.0294	1.065	1.193
#3	2.615	.0169	1.020	18.02	.0199	1.065	1.198

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2568.0	8045.1	58571.	7974.7
Stddev	4.2	9.6	3	

[Zoom In](#)
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Sample Name: FA36290-3R Acquired: 9/2/2016 17:43:25 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Avg	.0095	310.6	.1166	2.781	.0069	100.1	-.0023	-.1780	.8678	-.4068
Stddev	.0013	1.1	.0038	.013	.0001	.2	.0002	.0016	.0030	.0029
%RSD	13.66	.3400	3.286	.4623	1.521	.2093	9.088	.9084	.3415	.7106

#1	.0110	309.4	.1141	2.766	.0070	99.91	-.0021	-.1797	.8648	.4042
#2	.0086	310.9	.1210	2.787	.0070	100.1	-.0025	-.1778	.8678	.4064
#3	.0088	311.5	.1146	2.789	.0068	100.3	-.0024	-.1765	.8707	.4099

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	434.7	35.02	123.9	8.697	.0227	9.927	.7483	-.1764	-.0142	-.0229
Stddev	1.9	.10	.5	.039	.0010	.014	.0008	.0013	.0051	.0152
%RSD	.4472	.2773	.4209	.4428	4.325	.1360	.1099	.7492	36.12	66.33

#1	432.6	34.92	123.8	8.653	.0221	9.941	.7478	-.1776	-.0174	.0309
#2	435.0	35.12	123.4	8.715	.0222	9.914	.7478	-.1750	-.0083	.0325
#3	436.5	35.02	124.5	8.723	.0238	9.927	.7492	-.1765	-.0170	.0054

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.381	.0165	.8682	16.01	.0172	9.939	1.048
Stddev	.004	.0003	.0008	.22	.0027	.0019	.002
%RSD	.1549	2.070	.0960	1.389	15.64	2.063	2.002

#1	2.378	.0166	.8673	15.76	.0180	9.937	1.049
#2	2.379	.0168	.8688	16.14	.0142	9.930	1.046
#3	2.385	.0161	.8686	16.15	.0193	9.969	1.050

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2573.6	8009.9	58400.	7929.4
Stddev	9.3	8.9	338.	88.6
%RSD	.36291	.11151	.57924	1.1175

#1	2569.6	8010.4	58649.	8025.2
#2	2584.3	8018.5	58537.	7912.4
#3	2567.0	8000.7	58015.	7850.5

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Sample Name: C46963-44 Acquired: 9/2/2016 17:52:07 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0104	296.8	.1143	2.845	.0105	318.1	.0047	.1788	.9051	.4336
Stddev	.0002	.7	.0054	.009	.0002	.5	.0001	.0009	.0025	.0024
%RSD	2.211	.2429	4.696	.3246	2.062	.1713	2.772	.5242	.2746	.5601

#1	.0103	296.1	.1204	2.837	.0103	317.6	.0048	.1777	.9071	.4311
#2	.0103	297.5	.1122	2.855	.0105	318.7	.0047	.1792	.9023	.4360
#3	.0107	296.6	.1103	2.843	.0107	318.1	.0046	.1794	.9057	.4337

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	434.3	27.58	156.6	3.302	.1233	260.6	.7243	.1984	-.0078	.1180
Stddev	.7	.24	.3	.018	.0005	.5	.0018	.0072	.0078	.0050
%RSD	.1726	.8607	.1688	.5490	.3669	.1950	.2534	3.634	100.3	4.215

#1	433.6	27.34	156.3	3.296	.1236	260.4	.7223	.1929	-.0167	.1123
#2	435.1	27.59	156.9	3.322	.1228	261.2	.7260	.2066	-.0050	.1209
#3	434.2	27.81	156.7	3.287	.1235	260.2	.7246	.1958	-.0018	.1209

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	3.084	.0250	1.203	6.275	-.0013	9.666	1.457
Stddev	.006	.0016	.001	.025	.0038	.0013	.003
%RSD	.1928	6.273	.0893	.3919	296.9	.1365	.1930

#1	3.079	.0238	1.203	6.273	-.0049	9.682	1.455
#2	3.091	.0244	1.205	6.300	.0027	9.659	1.455
#3	3.083	.0268	1.202	6.251	-.0016	9.658	1.460

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2488.6	7896.4	57833.	7884.8
Stddev	11.6	25.6	176.	82.3
%RSD	.46417	.32442	.30439	1.0441

#1	2501.0	7918.9	57631.	7965.7
#2	2486.6	7901.8	57915.	7801.1
#3	2478.2	7868.5	57953.	7887.6

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Sample Name: FA36289-5T Acquired: 9/2/2016 17:47:45 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	-.0044	46.14	-.0476	.1925	.0017	F4050.	-.0028	-.0074	.1619	.1619
Stddev	.0010	.09	.0018	.0004	.0002	.27	.0002	.0000	.0007	.0007
%RSD	22.64	.1935	3.754	.2276	14.33	.6718	8.697	.4212	.1616	.1616

#1	-.0042	46.23	.0464	.1927	.0018	.4074	-.0027	.0074	.1616	.1616
#2	-.0034	46.13	.0467	.1928	.0014	.4021	-.0026	.0074	.1626	.1626
#3	-.0054	46.05	.0496	.1920	.0019	.4055	-.0031	.0074	.1614	.1614

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Se1960
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)
Avg	.0514	23.63	2.006	25.97	.3804	-.0016	3.185	-.0402	.0780	.0780
Stddev	.0012	.12	.143	.13	.0021	.0001	.035	.0007	.0012	.0012
%RSD	2.313	.5232	7.150	.5128	.5576	4.841	1.106	1.676	1.573	1.573

#1	.0517	23.69	2.129	26.10	.3806	-.0017	3.173	.0406	.0794	.0794
#2	.0500	23.71	2.039	25.96	.3824	-.0016	3.225	.0406	.0769	.0769
#3	.0523	23.49	1.848	25.84	.3782	-.0016	3.158	.0394	.0779	.0779

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0043	.0020	2.112	.0165	18.13	.8682	-.0151	.1280	.1880
Stddev	.0033	.0058	.008	.0003	.32	.0028	.0019	.0004	.0005
%RSD	76.79	297.0	.3952	1.666	1.781	.3182	12.83	.2898	.2434

#1	.0036	-.0030	2.120	.0165	18.49	.8679	-.0129	.1282	.1876
#2	.0078	.0084	2.114	.0168	18.00	.8711	-.0160	.1282	.1885
#3	.0014	.0005	2.103	.0162	17.89	.8656	-.0165	.1276	.1878

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2291.0	7067.0	51990.	7264.8
Stddev	2.1	18.3	101.	14.8
%RSD	.09226	.25897	.19507	.20313

#1	2291.4	7076.8	52103.	7256.2
#2	2292.9	7078.4	51959.	7256.4
#3	2288.8	7045.9	51908.	7281.8

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Sample Name: C46963-45 Acquired: 9/2/2016 17:56:09 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0065	254.2	.1591	1.537	.0126	44.55	.0016	.2185	.7645	.5901
Stddev	.0007	.2	.0028	.003	.0000	.12	.0001	.0002	.0012	.0015
%RSD	10.80	.0626	1.775	.2181	.1911	.2753	5.759	.0697	.1575	.2518

#1	.0058	254.4	.1588	1.540	.0126	44.69	.0016	.2186	.7635	.5910
#2	.0067	254.1	.1621	1.537	.0126	44.47	.0017	.2183	.7642	.5909
#3	.0071	254.1	.1564	1.533	.0126	44.48	.0015	.2186	.7659	.5884

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	499.7	35.99	164.9	3.777	.0270	193.2	.9170	.2510	-.0087	.0136
Stddev	1.5	.18	.3	.021	.0003	.1	.0026	.0009	.0039	.0087
%RSD	.3101	.5019	.1879	.5475	1.218	.0381	.2822	.3443	44.69	63.96

#1	498.5	36.20	165.2	3.757	.0274	193.2	.9141	.2517	-.0043	.0052
#2	499.1	35.87	164.6	3.799	.0269	193.1	.9179	.2512	-.0116	.0226
#3	501.4	35.90	164.8	3.776	.0268	193.2	.9191	.2500	-.0103	.0130

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	1.572	.0269	.5692	1.584	-.0021	.6755	1.635
Stddev	.003	.0016	.0004	.007	.0037	.0012	.002
%RSD	.2119	5.860	.0649	.4194	179.3	.1723	.1143

#1	1.568	.0281	.5692	1.578	.0017	.6743	1.633
#2	1.573	.0276	.5695	1.591	-.0057	.6755	1.635
#3	1.575	.0251	.5688	1.581	-.0023	.6766	1.637

Int. Std.

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Sample Name: C46963-47 Acquired: 9/2/2016 18:00:12 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0347	482.3	.0329	1.970	.0011	528.3	-.0026	-.2151	-.3162	1.114
Stddev	.0018	1.4	.0007	.005	.0004	2.0	.0002	.0004	.0017	.002
%RSD	5.285	.2904	1.982	.2600	32.62	.3834	7.667	.1879	.5379	.2151
#1	.0356	481.5	.0334	1.975	.0015	526.9	-.0028	.2149	.3147	1.115
#2	.0359	481.6	.0331	1.965	.0011	527.4	-.0024	.2148	.3180	1.116
#3	.0326	484.0	.0322	1.970	.0008	530.6	-.0025	.2155	.3159	1.111

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	415.1	17.39	178.5	6.879	.0119	50.56	5542	.0922	-.0072	.0241
Stddev	1.4	.29	.3	.018	.0013	.17	.0017	.0049	.0034	.0078
%RSD	.3479	1.654	.1507	.2686	10.61	.3296	.3041	5.281	47.62	32.52
#1	414.0	17.16	178.3	6.900	.0118	50.43	5532	.0901	-.0044	.0331
#2	414.6	17.30	178.8	6.866	.0132	50.51	5533	.0887	-.0110	.0192
#3	416.8	17.71	178.4	6.872	.0106	50.75	5562	.0978	-.0062	.0199

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	1.623	.0138	1.197	10.94	.0135	1.590	.7998
Stddev	.006	.0006	.005	.03	.0046	.003	.0022
%RSD	.3845	4.567	.4125	.2494	34.34	.1948	.2775
#1	1.622	.0131	1.196	10.97	.0174	1.593	.7979
#2	1.617	.0140	1.193	10.92	.0084	1.590	.7991
#3	1.629	.0143	1.202	10.93	.0148	1.587	.8022

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2502.0	7624.1	55311.	7647.8
Stddev	9.2	29.8	244.	32.6
%RSD	.36639	.39096	.44163	.42578
#1	2504.1	7639.8	55084.	7679.0
#2	2509.9	7642.7	55278.	7650.5
#3	2491.9	7589.7	55570.	7614.0

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Sample Name: CCV Acquired: 9/2/2016 18:08:24 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2577	39.95	2.064	2.049	1.975	39.83	2.042	2.039	2.022	1.984
Stddev	.0006	.09	.004	.007	.008	.07	.001	.002	.002	.001
%RSD	.2300	.2293	.2042	.3584	.3954	.1766	.0596	.0779	.1041	.0497
#1	.2579	40.02	2.059	2.040	1.982	39.88	2.043	2.039	2.019	1.984
#2	.2570	39.99	2.065	2.055	1.976	39.86	2.041	2.037	2.023	1.985
#3	.2582	39.85	2.067	2.051	1.967	39.75	2.043	2.040	2.023	1.983

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.24	42.04	40.13	2.012	2.006	41.08	2.012	1.981	2.004	2.000
Stddev	.06	.10	.010	.012	.004	.12	.003	.002	.002	.006
%RSD	.1645	.2328	.2427	.4941	.1774	.2822	.1458	.0860	.0825	.3081
#1	38.21	42.10	40.02	2.020	2.004	41.15	2.012	1.981	2.006	2.006
#2	38.32	42.10	40.19	2.015	2.005	41.14	2.009	1.982	2.004	1.994
#3	38.20	41.93	40.18	2.001	2.010	40.95	2.015	1.979	2.003	1.998

Check ? Chk PassChk PassChk PassChk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.047	2.047	2.017	2.035	1.997	2.038	2.029
Stddev	.001	.003	.009	.003	.001	.005	.002
%RSD	.0245	.1526	.4550	.1322	.0501	.2624	.0980
#1	2.047	2.044	2.024	2.035	1.996	2.041	2.029
#2	2.046	2.047	2.020	2.032	1.996	2.042	2.028
#3	2.047	2.050	2.007	2.037	1.998	2.032	2.032

Check ? None Chk PassChk PassChk PassChk PassChk PassChk Pass
Value
Range

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◀ Zoom In ▶
Zoom Out

Sample Name: C46963-48 Acquired: 9/2/2016 18:04:14 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0126	443.6	-.1002	4.253	-.0169	211.7	-.0001	-.2214	1.048	.6060
Stddev	.0022	1.1	.0034	.011	.0001	.7	.0002	.0007	.002	.0020
%RSD	17.83	.2404	3.414	.2566	.8768	.3318	247.1	.3216	.1988	.3379
#1	.0151	444.5	-.1035	4.261	.0167	212.2	-.0003	.2222	1.045	.6079
#2	.0109	443.9	-.1002	4.240	.0170	212.0	-.0001	.2210	1.049	.6064
#3	.0117	442.4	-.0967	4.257	.0168	210.9	.0001	.2210	1.049	.6038

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	537.9	23.09	.2033	9.259	-.0128	19.15	.9270	.2835	-.0108	.0267
Stddev	1.2	.17	.5	.138	.0003	.01	.0033	.0013	.0054	.0072
%RSD	.2257	.7314	.2355	1.494	2.507	.0497	.3608	.4719	50.16	27.05
#1	539.1	23.28	.2036	9.144	.0126	19.14	.9241	.2820	-.0121	.0350
#2	537.8	23.06	.2036	9.412	.0126	19.16	.9262	.2840	-.0154	.0228
#3	536.7	22.94	.2028	9.221	.0132	19.16	.9306	.2845	-.0048	.0223

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.721	.0322	2.287	3.126	-.0021	1.027	1.381
Stddev	.007	.0017	.006	.013	.0018	.001	.001
%RSD	.2417	5.217	.2590	.3995	85.49	.0622	.0652
#1	2.716	.0303	2.290	3.121	-.0001	1.028	1.380
#2	2.720	.0333	2.291	3.141	-.0027	1.027	1.380
#3	2.729	.0330	2.280	3.118	-.0036	1.027	1.382

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2524.9	8062.1	58878.	7950.6
Stddev	4.2	7.8	216.	54.5
%RSD	.16611	.09683	.36616	.68550
#1	2523.7	8053.1	59032.	7887.7
#2	2521.5	8066.0	58632.	7980.1
#3	2529.6	8067.2	58971.	7984.0

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◀ Zoom In ▶
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Sample Name: CCV Acquired: 9/2/2016 18:08:24 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2446.4	7282.5	53558.	7240.7
Stddev	2.1	8.4	293.	45.7
%RSD	.08485	.11547	.54651	.63130
#1	2448.8	7285.9	53435.	7292.8
#2	2445.2	7288.7	53348.	7207.0
#3	2445.3	7272.9	53893.	7222.5

Sample Name: CCB Acquired: 9/2/2016 18:12:28 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.002	0.0059	0.011	0.003	0.002	0.014	0.001	0.000	0.003
Stddev	0.003	0.006	0.004	0.001	0.001	0.004	0.000	0.001	0.001
%RSD	139.8	162.0	38.91	50.47	49.22	26.95	75.40	587.7	20.73
#1	-0.0005	-0.0049	0.011	0.003	0.002	0.010	0.001	-0.001	0.003
#2	0.001	0.131	0.007	0.001	0.003	0.016	0.000	0.001	0.002
#3	-0.0003	0.0095	0.015	0.004	0.001	0.016	0.001	0.001	0.004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.004	0.227	0.682	-0.062	0.000	F.0022	0.139	0.001	0.001
Stddev	0.002	0.019	0.376	0.090	0.000	0.005	0.115	0.002	0.004
%RSD	61.41	8.498	55.17	145.6	122.6	22.15	83.09	156.4	546.5
#1	-0.0005	0.249	0.971	-0.164	0.000	0.027	0.126	0.000	-0.004
#2	-0.0005	0.222	0.257	0.006	0.000	0.020	0.260	0.003	0.001
#3	-0.0001	0.211	0.817	-0.027	0.001	0.019	0.030	0.000	0.004

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Fail Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	0.003	F.0020	0.000	0.002	0.002	0.008	0.000	0.001	0.001
Stddev	0.005	0.006	0.004	0.001	0.001	0.001	0.000	0.003	0.000
%RSD	201.7	31.46	1609.	45.02	53.89	14.75	214.2	211.5	88.02
#1	-0.0003	0.024	0.000	0.004	0.004	0.009	0.000	0.002	0.001
#2	0.0005	0.024	0.004	0.002	0.001	0.007	0.000	0.004	0.001
#3	0.0006	0.013	-0.003	0.002	0.002	0.009	0.001	-0.002	0.000

Check ? Chk Pass Chk Fail None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

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Sample Name: CCB Acquired: 9/2/2016 18:12:28 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2727.6	7531.1	54819.	7299.9
Stddev	6.2	14.9	118.	31.9
%RSD	.22563	.19825	.21525	.43664
#1	2730.7	7548.4	54685.	7265.1
#2	2731.5	7522.9	54907.	7327.7
#3	2720.5	7522.1	54865.	7306.8

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Sample Name: C46963-49 Acquired: 9/2/2016 18:16:40 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Avg	0.062	246.3	0.607	3.433	0.078	771.3	0.094	0.1425	0.7765	0.4254
Stddev	0.003	.4	0.019	0.07	0.002	1.2	0.001	0.003	0.015	0.012
%RSD	5.483	0.1740	3.073	0.2029	3.026	0.1560	1.303	0.1826	0.1898	0.2889
#1	0.0059	246.7	0.613	3.431	0.076	772.5	0.094	0.1423	0.7769	0.4252
#2	0.066	245.9	0.585	3.427	0.081	770.1	0.093	0.1425	0.7778	0.4267
#3	0.062	246.4	0.621	3.441	0.078	771.5	0.095	0.1428	0.7749	0.4243

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	369.9	15.09	152.1	3.478	0.148	11.68	0.7486	0.1595	-0.1118	0.0142
Stddev	5	.19	.8	0.029	0.006	.04	0.011	0.0059	0.061	0.061
%RSD	0.1399	1.236	0.5016	0.8131	4.098	0.3520	0.1484	3.671	51.43	42.66
#1	370.5	15.23	151.7	3.481	0.153	11.71	0.7486	0.1625	-0.0049	0.0174
#2	369.7	15.16	151.6	3.506	0.141	11.70	0.7475	0.1633	-0.0142	0.0072
#3	369.5	14.88	153.0	3.448	0.151	11.64	0.7497	0.1527	-0.0164	0.0180

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.768	0.198	1.570	9.488	0.072	0.7316	1.075
Stddev	0.07	0.004	0.06	0.059	0.0070	0.002	0.01
%RSD	0.2623	1.856	0.3567	0.6222	97.07	0.2222	0.752
#1	2.775	0.196	1.574	9.482	0.063	0.7314	1.076
#2	2.760	0.202	1.571	9.550	0.007	0.7317	1.075
#3	2.768	0.195	1.563	9.433	0.016	0.7316	1.075

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2470.7	8002.7	58504.	7946.5
Stddev	10.1	2.3	201.	73.4
%RSD	0.4076	0.2871	0.34303	0.92383
#1	2474.4	8004.1	58342.	7987.2
#2	2459.3	8000.0	58728.	7990.6
#3	2478.4	8003.8	58440.	7861.7

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Sample Name: C46963-50 Acquired: 9/2/2016 18:20:43 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)	(Y_3600)
Avg	0.084	296.3	0.716	3.531	0.088	155.4	0.026	0.2122	0.8599	0.4265
Stddev	0.017	1.0	0.017	0.13	0.003	.5	0.003	0.008	0.025	0.013
%RSD	19.73	0.3500	2.333	0.3716	3.749	0.3116	13.26	0.3921	0.2917	0.2976
#1	0.102	296.7	0.705	3.519	0.085	155.6	0.029	0.2120	0.8616	0.4278
#2	0.069	297.2	0.708	3.545	0.091	155.7	0.023	0.2116	0.8612	0.4252
#3	0.080	295.2	0.735	3.530	0.087	154.8	0.024	0.2132	0.8571	0.4264

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	432.9	43.19	147.2	11.46	0.264	13.41	0.8468	0.2149	-0.0010	0.0142
Stddev	2.0	0.06	.4	0.10	0.007	0.05	0.006	0.0035	0.0028	0.0082
%RSD	0.4543	0.1394	0.2599	0.8349	2.692	0.3905	0.0658	1.626	276.6	57.51
#1	432.8	43.26	147.1	11.51	0.268	13.47	0.8470	0.2161	-0.0030	0.0121
#2	434.9	43.15	147.6	11.52	0.269	13.39	0.8473	0.2110	0.0022	0.0233
#3	431.0	43.16	146.8	11.35	0.256	13.38	0.8462	0.2177	-0.0023	0.0074

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.108	0.348	0.8185	8.428	0.123	0.6798	1.344
Stddev	0.02	0.005	0.026	0.13	0.027	0.011	0.03
%RSD	0.1145	1.447	0.3172	0.1510	22.18	0.1565	0.2131
#1	2.111	0.346	0.8203	8.429	0.154	0.6788	1.342
#2	2.106	0.354	0.8197	8.439	0.116	0.6809	1.342
#3	2.107	0.345	0.8155	8.414	0.101	0.6797	1.347

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2554.6	7856.2	57348.	7670.3
Stddev	4.4	11.8	190.	96.9
%RSD	0.17038	0.15064	0.33108	1.2635
#1	2558.9	7867.5	57187.	7702.3
#2	2550.2	7857.2	57300.	7561.5
#3	2554.6	7843.9	57558.	7747.2

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◀ Zoom In ▶
Zoom Out

Sample Name: C46963-51 Acquired: 9/2/2016 18:24:54 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0117	265.9	.1071	2.858	.0053	510.9	.0022	.1599	1.101	.6095
Stddev	.0021	1.1	.0029	.003	.0002	2.1	.0001	.0014	.003	.0020
%RSD	18.34	.3975	2.695	.1111	4.574	.4062	5.718	.8942	.2991	.3341

#1	.0096	265.8	.1069	2.857	.0054	511.3	.0023	.1592	1.099	.6071
#2	.0139	267.0	.1101	2.862	.0050	512.8	.0021	.1589	1.105	.6107
#3	.0116	264.9	.1044	2.856	.0055	508.7	.0022	.1615	1.099	.6107

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	480.0	20.74	203.7	10.96	.0364	210.2	1.002	.1608	-.0111	.0412
Stddev	2.6	.20	1.4	.05	.0008	.9	.002	.0006	.0015	.0066
%RSD	.5442	.9498	.6837	.5002	2.227	.4101	.1602	.3430	13.12	15.93

#1	480.4	20.64	203.3	11.01	.0362	210.2	1.001	.1606	-.0098	.0445
#2	482.3	20.97	205.2	10.97	.0373	211.0	1.004	.1603	-.0127	.0455
#3	477.2	20.62	202.5	10.90	.0357	209.3	1.002	.1614	-.0107	.0337

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	2.200	.0298	2.309	16.43	.0137	1.059	1.313
Stddev	.007	.0003	.006	.17	.0024	.003	.001
%RSD	.3298	.9211	.2561	1.022	17.40	.2967	.0683

#1	2.192	.0296	2.308	16.39	.0165	1.056	1.312
#2	2.200	.0301	2.316	16.62	.0122	1.062	1.313
#3	2.207	.0296	2.304	16.29	.0125	1.058	1.314

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2452.6	7843.5	57674.	7746.5
Stddev	5.2	14.2	302.	91.2
%RSD	.21023	.18141	.52384	1.1773

#1	2457.5	7840.5	57578.	7720.6
#2	2447.3	7831.0	57432.	7671.1
#3	2453.1	7859.0	58013.	7847.9

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◀ Zoom In ▶
Zoom Out

Sample Name: FA36601-1 Acquired: 9/2/2016 18:41:37 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 10.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)
Avg	.0062	3409.	.0090	.2857	.0009	36.75	.0543	.2065
Stddev	.0026	36.	.0079	.0028	.0006	.15	.0005	.0008
%RSD	41.23	1.065	87.75	.9966	71.34	.4030	.8928	.3882

#1	.0077	3445.	.0007	.2856	.0003	36.92	.0543	.2063
#2	.0077	3410.	.0100	.2886	.0008	36.69	.0539	.2074
#3	.0033	3372.	.0165	.2830	.0015	36.64	.0548	.2059

Elem	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895
IS Ref	(Y_3600)	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)
Avg	F68.08	1.452	358.7	8.668	474.6	2.192	.0220	1.340
Stddev	.17	.005	.5	.441	2.8	.012	.0026	.068
%RSD	.2480	.3596	.1357	5.088	.5800	.5254	11.72	5.076

#1	67.89	1.448	359.2	8.477	477.3	2.179	.0198	1.278
#2	68.17	1.450	358.5	9.172	474.6	2.198	.0249	1.413
#3	68.19	1.458	358.3	8.354	471.8	2.199	.0213	1.330

Elem	Ni2316	Pb2203	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349
IS Ref	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)
Avg	3.539	F201.6	F-.4224	-.0511	1.723	.1902	.3871	1.434
Stddev	.004	.2	.0148	.0267	.004	.0017	.0021	.007
%RSD	.1038	.1102	3.497	52.25	.2464	.9149	.5335	.5120

#1	3.543	201.4	-.4129	-.0397	1.723	.1916	.3892	1.426
#2	3.536	201.5	-.4149	-.0817	1.719	.1908	.3851	1.435
#3	3.539	201.8	-.4394	-.0320	1.727	.1882	.3869	1.441

Elem	Ti1908	V_2924	Zn2062
IS Ref	(In2306)	(Y_3600)	(Y_2243)
Avg	.0135	.6917	F71.01
Stddev	.0045	.0009	.09
%RSD	33.38	.1238	.1283

#1	.0162	.6907	70.97
#2	.0083	.6922	70.93
#3	.0159	.6922	71.11

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◀ Zoom In ▶
Zoom Out

Sample Name: C46963-52 Acquired: 9/2/2016 18:29:14 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 5.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0118	.233.5	.1138	3.087	.0072	106.8	.0058	.1432	.9153	.5562
Stddev	.0014	.1	.0033	.010	.0003	.0	.0002	.0008	.0042	.0027
%RSD	11.82	.0408	2.943	.3115	4.602	.0364	2.799	.5843	.4607	.4817

#1	.0123	233.4	.1102	3.079	.0073	106.8	.0056	.1435	.9105	.5537
#2	.0129	233.6	.1146	3.098	.0068	106.8	.0059	.1438	.9185	.5590
#3	.0102	233.4	.1168	3.084	.0074	106.8	.0058	.1422	.9168	.5557

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	437.4	19.19	158.2	18.21	.0523	120.5	1.093	.1666	-.0108	.0319
Stddev	1.0	.15	.4	.15	.0009	.2	.004	.0022	.0026	.0018
%RSD	.2394	.7687	.2517	.8475	1.656	.1535	.3844	1.333	24.52	5.692

#1	436.4	19.32	158.2	18.11	.0515	120.5	1.088	.1648	-.0100	.0300
#2	438.5	19.03	157.8	18.13	.0520	120.6	1.094	.1691	-.0137	.0336
#3	437.3	19.23	158.6	18.38	.0532	120.3	1.097	.1659	-.0086	.0321

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	1.821	.0172	.7641	12.13	.0180	1.011	1.218
Stddev	.003	.0005	.0009	.07	.0010	.001	.002
%RSD	.1858	3.015	.1133	.5757	5.576	.1256	.1909

#1	1.820	.0175	.7651	12.06	.0177	1.013	1.215
#2	1.824	.0166	.7637	12.14	.0172	1.010	1.220
#3	1.818	.0175	.7635	12.20	.0191	1.010	1.219

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2537.4	8099.6	59131.	7928.0
Stddev	3.7	13.3	371.	52.4
%RSD	.14695	.16435	.62677	.66071

#1	2533.9	8115.0	59538.	7984.3
#2	2541.3	8092.7	59041.	7919.0
#3	2537.0	8091.2	58814.	7880.7

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◀ Zoom In ▶
Zoom Out

Sample Name: FA36601-1 Acquired: 9/2/2016 18:41:37 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 10.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2487.1	7389.5	53589.	7499.1
Stddev	1.4	9.0	355.	37.9
%RSD	.05626	.12208	.66290	.50526

#1	2486.5	7380.3	53988.	7461.1
#2	2488.7	7398.4	53306.	7499.4
#3	2486.1	7389.9	53472.	7536.8

◀ Zoom In ▶
Zoom Out

Sample Name: CRIA Acquired: 9/2/2016 18:45:45 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)	(Y_3600)
Avg	.0086	.2519	.0112	.2185	.0054	.1116	.0056	.0554	.0118	.0264
Stddev	.0001	.0072	.0006	.0008	.0001	.003	.0001	.0001	.0002	.0001
%RSD	1.483	2.848	5.108	.3525	1.283	.2536	1.928	.1110	1.774	.5359

#1	.0085	.2472	.0115	.2177	.0054	.1119	.0055	.0553	.0117	.0263
#2	.0086	.2482	.0116	.2185	.0055	.1116	.0056	.0554	.0116	.0266
#3	.0087	.2601	.0105	.2192	.0053	.1113	.0057	.0554	.0120	.0263

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
IS Ref	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)	(Y_2243)	(Y_2243)
Avg	.3402	11.33	5.478	.0164	.0526	11.11	.0441	.0063	.0057	.0120
Stddev	.0045	.03	.025	.0001	.0002	.01	.0002	.0003	.0013	.0013
%RSD	1.321	.2705	.4494	.6232	.3397	.1195	.5182	4.474	22.10	10.87

#1	.3448	11.32	5.506	.0164	.0524	11.10	.0443	.0066	.0046	.0130
#2	.3401	11.31	5.462	.0165	.0526	11.12	.0442	.0063	.0053	.0105
#3	.3358	11.37	5.466	.0163	.0528	11.11	.0438	.0060	.0071	.0125

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0423	.0545	.0107	.0109	.0095	.0518	.0237
Stddev	.0001	.0006	.0001	.0001	.0013	.0001	.0001
%RSD	.2608	1.145	.5791	.9861	13.86	.1228	.3781

#1	.0423	.0538	.0107	.0108	.0084	.0519	.0238
#2	.0424	.0549	.0107	.0110	.0109	.0517	.0237
#3	.0422	.0549	.0108	.0108	.0091	.0518	.0236

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2647.4	7488.1	54591.	7194.2
Stddev	4.1	8.5	142.	32.4
%RSD	.15559	.11350	.26001	.45037

#1	2643.0	7483.2	54536.	7166.0
#2	2648.2	7497.9	54484.	7229.6
#3	2651.1	7483.2	54752.	7187.0

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◀ Zoom In ▶
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Sample Name: ICASAB Acquired: 9/2/2016 18:54:08 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	F.9649	F502.7	1.144	.5220	.4979	491.1	.9700	.4892	.5168
Stddev	.0025	3.9	.002	.0003	.0032	3.8	.0004	.0007	.0008
%RSD	.2565	.7826	.1743	.0669	.6523	.7737	.0390	.1502	.1591

#1	.9642	498.1	1.142	.5224	.5016	495.0	.9702	.4887	.5164
#2	.9676	505.1	1.144	.5219	.4968	487.5	.9695	.4888	.5178
#3	.9628	504.8	1.146	.5217	.4954	490.6	.9702	.4900	.5163

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	.5430	181.9	.0609	498.6	.5128	1.005	.1626	.9741	1.003
Stddev	.0004	.5	.0238	1.4	.0003	.003	.0082	.0014	.004
%RSD	.0816	.2689	39.03	.2766	.0574	.2902	5.032	.1447	.3790

#1	.5428	182.5	.0563	499.6	.5128	1.003	.1629	.9728	1.006
#2	.5436	181.7	.0398	499.3	.5125	1.004	.1706	.9738	.9986
#3	.5428	181.6	.0867	497.1	.5131	1.008	.1542	.9756	1.003

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	1.074	1.067	.0413	.9869	1.054	1.075	1.041	.4804	.9659
Stddev	.004	.005	.0012	.0016	.005	.001	.006	.0005	.0008
%RSD	.3551	.4288	2.913	.1597	.4616	.1275	.5894	.1088	.0875

#1	1.070	1.063	.0399	.9868	1.060	1.077	1.041	.4805	.9666
#2	1.078	1.072	.0422	.9854	1.051	1.074	1.035	.4798	.9650
#3	1.074	1.066	.0417	.9886	1.052	1.074	1.047	.4808	.9662

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2113.0	6767.0	48390.	6837.1
Stddev	6.6	6.0	208.	30.4
%RSD	.31330	.08834	.42918	.44465

#1	2106.9	6766.0	48291.	6864.7
#2	2120.1	6773.4	48629.	6804.5
#3	2112.1	6761.5	48251.	6842.2

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◀ Zoom In ▶
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Sample Name: ICESA Acquired: 9/2/2016 18:49:50 Type: Unk
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
IS Ref	(Y_3600)	(Y_3710)	(Y_2243)	(Y_3710)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_2243)	(Y_3600)
Avg	-.0003	497.0	.0010	-.0001	.0001	470.4	.0000	.0006	.0006
Stddev	.0007	8.4	.0014	.0000	.0001	6.8	.0001	.0001	.0001
%RSD	255.6	1.692	145.1	39.44	131.5	1.450	332.9	18.41	10.03

#1	-.0011	495.6	-.0005	-.0001	.0000	476.6	.0000	.0007	.0006
#2	.0000	506.0	.0024	.0000	.0002	471.6	.0000	.0005	.0005
#3	.0002	489.3	.0011	-.0001	.0001	463.1	.0001	.0006	.0006

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
IS Ref	(Y_3600)	(Y_3710)	(Y_3710)	(Y_2243)	(Y_3600)	(Y_2243)	(Y_3710)	(Y_2243)	(In2306)
Avg	-.0004	180.3	1067	F500.7	-.0002	.0000	-.1778	.0003	.0018
Stddev	.0001	.5	.0326	2.1	.0000	.000	.0096	.0003	.0034
%RSD	31.50	2807	30.57	.4139	19.70	3206.	5.380	97.33	188.2

#1	-.0004	180.7	.1083	502.2	-.0002	-.0003	.1680	.0003	.0016
#2	-.0003	180.5	.1384	501.5	-.0003	.0003	.1781	.0000	-.0015
#3	-.0006	179.8	.0733	498.3	-.0002	.0000	.1872	.0005	.0054

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3710)	(Y_3600)	(In2306)	(Y_3600)	(Y_2243)
Avg	.0003	-.0038	.0437	.0031	.0002	.0007	.0000	.0005	-.0005
Stddev	.0022	.0040	.0009	.0004	.0007	.0001	.002	.0003	.0002
%RSD	678.0	105.1	2.009	14.11	316.8	15.61	5911.	61.94	32.04

#1	.0023	-.0062	.0427	.0030	-.0003	.0007	-.0008	.0007	-.0006
#2	.0006	.0008	.0443	.0027	.0000	.0007	.0018	.0006	-.0006
#3	-.0020	-.0061	.0441	.0036	.0010	.0005	-.0011	.0001	-.0003

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Avg	2144.7	6781.4	48833.	6885.4
Stddev	1.5	19.3	224.	55.2
%RSD	.07048	.28436	.45946	.80108

#1	2142.9	6776.5	48876.	6872.9
#2	2145.3	6802.7	49034.	6837.6
#3	2145.8	6765.1	48591.	6945.7

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◀ Zoom In ▶
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Sample Name: CCV Acquired: 9/2/2016 18:58:22 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677	Cu3247
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2590	40.16	2.053	2.059	1.990	40.12	2.044	2.040	2.039	2.012
Stddev	.0011	.02	.004	.005	.002	.02	.002	.003	.002	.007
%RSD	.4189	.0603	.1828	.2425	.1000	.0508	.0762	.1536	.1153	.3336

#1	.2596	40.18	2.051	2.062	1.989	40.10	2.042	2.036	2.041	2.005
#2	.2578	40.17	2.050	2.053	1.992	40.14	2.044	2.041	2.037	2.013
#3	.2597	40.14	2.057	2.061	1.988	40.12	2.046	2.041	2.041	2.018

Check ?	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass
Value										
Range										

Elem	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	38.72	41.87	40.16	2.042	2.023	41.00	2.031	2.002	2.023	2.020
Stddev	.04	.02	.09	.014	.004	.07	.003	.004	.007	.003
%RSD	.1142	.0570	.2134	.6593	.2120	.1691	.1462	.1869	.3654	.1357

#1	38.77	41.90	40.24	2.027	2.018	41.07	2.030	2.006	2.015	2.017
#2	38.68	41.86	40.18	2.048	2.023	40.93	2.034	2.002	2.029	2.020
#3	38.72	41.86	40.07	2.052	2.027	41.01	2.028	1.999	2.023	2.023

Check ?	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass	Chk	Pass
Value										
Range										

Elem	Si2124	Sn1899	Sr4077	Ti3349	Ti1908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.060	2.042	2.033	2.074	2.018	2.044	2.036
Stddev	.004	.002	.002	.005	.003	.002	.002
%RSD	.1820	.1016	.1117	.2365	.1368	.0938	.0827

#1	2.056	2.042	2.032	2.076	2.018	2.046	2.035
#2	2.061	2.040	2.036	2.068	2.021	2.042	2.038
#3	2.063	2.044	2.031</				

Sample Name: CCV	Acquired: 9/2/2016 18:58:22	Type: QC
Method: 60102007_041712(v273)	Mode: CONC	Corr. Factor: 1.000000
User: admin	SSTRACE02:	Custom ID2:
		Custom ID3:
Comment:		

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2423.2	7274.6	52730.	7100.5
Stddev	8.4	12.6	154.	25.8
%RSD	.34824	.17377	.29118	.36395

#1	2416.2	7271.9	52562.	7130.1
#2	2420.9	7263.6	52863.	7082.5
#3	2432.6	7288.4	52764.	7088.8

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◀ Zoom In
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Sample Name: CCB	Acquired: 9/2/2016 19:02:27	Type: QC
Method: 60102007_041712(v273)	Mode: CONC	Corr. Factor: 1.000000
User: admin	SSTRACE02:	Custom ID2:
Comment:		Custom ID3:

Elem Units	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3179	Cd2265	Co2286	Cr2677
Avg	.0001	.0096	.0009	.0003	.0002	.0098	.0000	.0000	.0003
StdDev	.0002	.0092	.0006	.0002	.0001	.0012	.0000	.0000	.0003
%RSD	176.3	95.71	64.93	66.10	43.28	12.02	123.9	378.6	80.39

#1	.0003	.0172	.0009	.0003	.0003	.0086	.0001	.0000	.0000
#2	.0000	.0124	.0003	.0005	.0002	.0099	.0000	.0001	.0005
#3	.0000	-.0007	.0015	.0001	.0001	.0110	.0000	.0000	.0005

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-0.004	0.0271	0.0442	0.0142	0.0001	F 0.0023	0.0171	-0.0003	0.0004
StdDev	0.0003	0.0038	0.0100	0.0238	0.0000	0.0006	0.0056	0.0003	0.0007
%RSD	60.20	14.03	22.71	167.2	44.22	24.75	32.60	117.1	175.1

#1	-.0001	.0315	.0337	.0341	.0001	.0028	.0167	.0003	-.0001
#2	-.0006	.0252	.0452	-.0122	.0000	.0024	.0117	-.0001	.0012
#3	-.0005	.0247	.0537	.0208	.0001	.0017	.0228	.0005	.0001

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit						.0010			
Low Limit						-.0010			

Elem	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Ti11908	V_2924	Zn2062
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.003	.0006	.0012	.0002	.0002	.0008	-.0003	.0002	.0001
Stddev	.0005	.0011	.0007	.0002	.0001	.0001	.0010	.0000	.0001
%RSD	202.1	186.4	56.52	98.31	35.48	10.28	383.0	9.973	57.56

#1	.0008	-.0004	.0009	.0002	.0002	.0008	-.0010	.0002	.0002
#2	-.0002	.0005	.0008	.0004	.0003	.0009	.0009	.0002	.0001
#3	.0002	.0017	.0020	.0000	.0002	.0007	-.0006	.0002	.0001

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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◀ Zoom In
Zoom Out

Sample Name: CCB Acquired: 9/2/2016 19:02:27 Type: QC
Method: 60102007_041712(v273) Mode: CONC Corr. Factor: 1.000000
User: admin SSTRACE02: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	2707.0	7539.8	54682.8	7168.3
Stddev	1.9	11.4	262.	30.9
%RSD	.06930	.15100	.47905	.43076

#1	2705.0	7527.0	54962.	7184.1
#2	2708.8	7548.8	54642.	7188.1
#3	2707.2	7543.8	54442.	7132.7

Raw Data MA13383 page 163 of 163

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	<input checked="" type="checkbox"/>	3	V	0.009834	0.000000	No
			Fe	0.000001	0.000000	No
			Mg	0.000002	0.000000	No
Al 396.152 { 85}	<input checked="" type="checkbox"/>	1	Mo	0.035224	0.000000	No
As 189.042 {478}	<input checked="" type="checkbox"/>	5	Fe	0.000078	0.000000	No
			Cr	0.000226	0.000000	No
			Mo	0.000017	0.000000	No
			Al	0.000004	0.000000	No
			Ca	0.000002	0.000000	No
Ba 455.403 { 74}	<input checked="" type="checkbox"/>	1	Fe	0.000019	0.000000	No
Be 313.042 {108}	<input checked="" type="checkbox"/>	2	V	0.000115	0.000000	No
			Ti	0.000059	0.000000	No
Ca 317.933 {106}	<input checked="" type="checkbox"/>	None				
Cd 226.502 {449}	<input checked="" type="checkbox"/>	4	Fe	0.000068	0.000000	No
			Ca	0.000001	0.000000	No
			Al	0.000001	0.000000	No
			Ti	0.000151	0.000000	No
Co 228.616 {447}	<input checked="" type="checkbox"/>	3	Mo	0.001220	0.000000	No
			Ti	0.003012	0.000000	No
			Fe	0.000005	0.000000	No
Cr 267.716 {126}	<input checked="" type="checkbox"/>	3	Al	0.000005	0.000000	No
			Fe	0.000010	0.000000	No
			Ca	0.000002	0.000000	No
Cu 324.754 {104}	<input checked="" type="checkbox"/>	10	Fe	0.000201	0.000000	No
			Ca	0.000002	0.000000	No
			Mo	0.000528	0.000000	No
			Sn	0.000012	0.000000	No
			V	0.000158	0.000000	No
			Ti	0.000251	0.000000	No
			Al	0.000004	0.000000	No
			Mg	0.000002	0.000000	No
			Co	0.000787	0.000000	No
			Cd	0.000240	0.000000	No
Fe 259.940 {130}	<input checked="" type="checkbox"/>	None				
In 230.606 {446}*	<input checked="" type="checkbox"/>	None				
K 766.490 { 44}	<input checked="" type="checkbox"/>	None				
Mg 279.079 {121}	<input checked="" type="checkbox"/>	None				
Mn 257.610 {131}	<input checked="" type="checkbox"/>	2	Fe	0.000004	0.000000	No
			Mg	0.000001	0.000000	No
Mo 202.030 {467}	<input checked="" type="checkbox"/>	1	Fe	0.000017	0.000000	No
Na 589.592 { 57}	<input checked="" type="checkbox"/>	None				
Ni 231.604 {445}	<input checked="" type="checkbox"/>	7	Fe	0.000056	0.000000	No
			Co	0.000054	0.000000	No
			Mo	0.000005	0.000000	No
			Sb	0.000120	0.000000	No
			Al	0.000003	0.000000	No
			Be	0.000269	0.000000	No
			Ti	0.000440	0.000000	No
Pb 220.353 {453}	<input checked="" type="checkbox"/>	9	Al	0.000303	0.000000	No
			Fe	0.000191	0.000000	No
			Mo	0.001012	0.000000	No
			Cu	0.001070	0.000000	No
			Ti	0.000036	0.000000	No
			Si	0.000071	0.000000	No
			Ca	0.000001	0.000000	No
			Cr	0.000050	0.000000	No
			Mg	0.000004	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Sb 206.833 {463}	<input checked="" type="checkbox"/>	10	Fe	0.000037	0.000000	No
			Cr	0.012140	0.000000	No
			Mo	0.004076	0.000000	No
			V	0.000611	0.000000	No
			Sn	0.010736	0.000000	No
			Ti	0.000040	0.000000	No
			Ca	0.000001	0.000000	No
			Ni	0.000438	0.000000	No
			Mg	0.000002	0.000000	No
			Al	0.000003	0.000000	No
Se 196.090 {472}	<input checked="" type="checkbox"/>	10	Fe	0.000063	0.000000	No
			Ca	0.000001	0.000000	No
			Mn	0.000574	0.000000	No
			Mo	0.000111	0.000000	No
			Al	0.000006	0.000000	No
			V	0.000000	0.000000	No
			Zn	0.000000	0.000000	No
			Sr	0.000137	0.000000	No
			As	0.000032	0.000000	No
			Be	0.000212	0.000000	No
Si 212.412 {459}	<input checked="" type="checkbox"/>	1	Mo	0.019120	0.000000	No
Sn 189.989 {477}	<input checked="" type="checkbox"/>	None				
Sr 407.771 { 83}	<input checked="" type="checkbox"/>	1	Ca	0.000098	0.000000	No
Ti 334.941 {101}	<input checked="" type="checkbox"/>	1	Ca	0.000013	0.000000	No
Tl 190.856 {477}	<input checked="" type="checkbox"/>	11	Co	0.001145	0.000000	No
			Fe	0.000023	0.000000	No
			Al	0.000011	0.000000	No
			Ba	0.000051	0.000000	No
			Ti	0.002651	0.000000	No
			Sb	0.000012	0.000000	No
			Ca	0.000003	0.000000	No
			Cr	0.000230	0.000000	No
			Mg	0.000003	0.000000	No
			Mn	0.000818	0.000000	No
			V	0.038621	0.000000	No
V 292.402 {115}	<input checked="" type="checkbox"/>	5	Fe	0.000006	0.000000	No
			Cr	0.002590	0.000000	No
			Mo	0.005797	0.000000	No
			Ti	0.000364	0.000000	No
			Mn	0.000693	0.000000	No
Y 224.306 {450}*	<input checked="" type="checkbox"/>	None				
Y 360.073 { 94}*	<input checked="" type="checkbox"/>	None				
Y 371.030 { 91}*	<input checked="" type="checkbox"/>	None				
Zn 206.200 {463}	<input checked="" type="checkbox"/>	5	Cr	0.000965	0.000000	No
			Al	0.000005	0.000000	No
			Ca	0.000003	0.000000	No
			Fe	0.000006	0.000000	No
			As	0.001128	0.000000	No

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.001390	0.459999	0.000000	1.000000
Al 396.152 { 85}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.000925	0.153039	0.000000	1.000000
As 189.042 {478}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.000312	0.167600	0.000000	1.000000
Ba 455.403 { 74}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.002234	7.935190	0.000000	1.000000
Be 313.042 {108}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.000132	7.506920	0.000000	1.000000
Ca 317.933 {106}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.005970	0.275785	0.000000	1.000000
Cd 226.502 {449}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.000177	4.696724	0.000000	1.000000
Co 228.616 {447}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.000375	2.164198	0.000000	1.000000
Cr 267.716 {126}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.000476	0.452995	0.000000	1.000000
Cu 324.754 {104}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.001665	0.551361	0.000000	1.000000
Fe 259.940 {130}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.000803	0.145574	0.000000	1.000000
In 230.606 {446}*	9/2/2016 8:12:27	5/5/2010 12:30:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.010584	0.075558	0.000000	1.000000
Mg 279.079 {121}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.000307	0.024396	0.000000	1.000000
Mn 257.610 {131}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.000152	2.151107	0.000000	1.000000
Mo 202.030 {467}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.000173	0.995023	0.000000	1.000000
Na 589.592 { 57}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.002098	0.324152	0.000000	1.000000
Ni 231.604 {445}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.000569	1.099681	0.000000	1.000000
Pb 220.353 {453}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.001590	1.228370	0.000000	1.000000
Sb 206.833 {463}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.000412	0.193984	0.000000	1.000000
Se 196.090 {472}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.000543	0.117860	0.000000	1.000000
Si 212.412 {459}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.003154	0.365895	0.000000	1.000000
Sn 189.989 {477}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.000496	0.452389	0.000000	1.000000
Sr 407.771 { 83}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.007669	13.370254	0.000000	1.000000
Ti 334.941 {101}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.001538	1.511543	0.000000	1.000000
Tl 190.856 {477}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.002821	0.588006	0.000000	1.000000
V 292.402 {115}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	-0.000100	0.598867	0.000000	1.000000
Y 224.306 {450}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	<not fit>	<Never Calibrated>	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {463}	9/2/2016 8:38:39	9/2/2016 8:38:39	Linear	1/Conc	0.001173	2.838427	0.000000	1.000000

Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
						Slope	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.999881	0.000066	0.000499	0.001662	OK	1.000000	0.000000	1	0
Al 396.152 {85}	0.999838	0.004444	0.008674	0.028913	OK	1.000000	0.000000	1	0
As 189.042 {478}	0.999944	0.000142	0.000823	0.002742	OK	1.000000	0.000000	1	0
Ba 455.403 {74}	0.999960	0.005704	0.000217	0.000724	OK	1.000000	0.000000	1	0
Be 313.042 {108}	0.999949	0.006104	0.000073	0.000245	OK	1.000000	0.000000	1	0
Ca 317.933 {106}	0.999748	0.009971	0.002447	0.008156	OK	1.000000	0.000000	1	0
Cd 226.502 {449}	0.999927	0.004589	0.000045	0.000151	OK	1.000000	0.000000	1	0
Co 228.616 {447}	0.999951	0.001728	0.000106	0.000353	OK	1.000000	0.000000	1	0
Cr 267.716 {126}	0.999927	0.000442	0.000294	0.000979	OK	1.000000	0.000000	1	0
Cu 324.754 {104}	0.999972	0.000331	0.000365	0.001215	OK	1.000000	0.000000	1	0
Fe 259.940 {130}	0.999664	0.006083	0.002305	0.007683	OK	1.000000	0.000000	1	0
In 230.606 {446}*	0.000000	0.000000	-1.000000	1.000000	Warnin	1.000000	0.000000	1	0
K 766.490 {44}	0.999844	0.002151	0.030643	0.102145	OK	1.000000	0.000000	1	0
Mg 279.079 {121}	0.999677	0.000999	0.017292	0.057640	OK	1.000000	0.000000	1	0
Mn 257.610 {131}	0.999899	0.002465	0.000055	0.000183	OK	1.000000	0.000000	1	0
Mo 202.030 {467}	0.999995	0.000262	0.000144	0.000481	OK	1.000000	0.000000	1	0
Na 589.592 {57}	0.999804	0.010351	0.007518	0.025060	OK	1.000000	0.000000	1	0
Ni 231.604 {445}	0.999954	0.000847	0.000204	0.000680	OK	1.000000	0.000000	1	0
Pb 220.353 {453}	0.999928	0.001193	0.000517	0.001722	OK	1.000000	0.000000	1	0
Sb 206.833 {463}	0.999940	0.000171	0.001165	0.003884	OK	1.000000	0.000000	1	0
Se 196.090 {472}	0.999943	0.000101	0.001805	0.006015	OK	1.000000	0.000000	1	0
Si 212.412 {459}	0.994304	0.003219	0.000439	0.001462	OK	1.000000	0.000000	1	0
Sn 189.989 {477}	0.999950	0.000363	0.000256	0.000853	OK	1.000000	0.000000	1	0
Sr 407.771 {83}	0.999909	0.014556	0.000083	0.000277	OK	1.000000	0.000000	1	0
Ti 334.941 {101}	0.999863	0.002013	0.000138	0.000459	OK	1.000000	0.000000	1	0
Tl 190.856 {477}	0.999948	0.000464	0.000695	0.002317	OK	1.000000	0.000000	1	0
V 292.402 {115}	0.999899	0.000681	0.000289	0.000962	OK	1.000000	0.000000	1	0
Y 224.306 {450}*	0.000000	0.000000	-1.000000	1.000000	Warnin	1.000000	0.000000	1	0
Y 360.073 {94}*	0.000000	0.000000	-1.000000	1.000000	Warnin	1.000000	0.000000	1	0
Y 371.030 {91}*	0.000000	0.000000	-1.000000	1.000000	Warnin	1.000000	0.000000	1	0
Zn 206.200 {463}	0.999930	0.002708	0.000055	0.000183	OK	1.000000	0.000000	1	0

DOD

SGS Accutest - Orlando

Metals Digestion Log Water

Method of digestion(circle one): SW846-3010A / SW846-3005A / EPA 200.7 / SM3030C

MP #: 30786

Prep Date/Time (mm/dd/yy 24:00): 08/31/16; 15:33

HotBlock I.D. 5

Thermometer I.D. 204

Correction Factor (°C) -1

Temperature Observed/Corrected (°C) 94.93

Added B:

HNO₃

HCL

Lot#

0000138393

4115120

Volume

Spk. Sol. A Used(ml) Pipette #

ACC954 0.5 10

ACC924 0.25 10

ACC 0.25 10

Met 5479 Dig. Tube Lot#: 1512329

Sample #	Initial Volume(ml)	pH<2	Final Volume(ml)	Comments
Method Blank(MB)	50.0	N/A	50.0	
Spike Blank(SB)		N/A		
Matrix Spike(MS)		✓		
Matrix Spike Dup(MSD)		✓		
Duplicate(DUP)		✓		
1 QC FA36481-6	09	✓		
2 ↓ -14	↓	✓		
3 FA36513-1	26	✓		
4 ↓ -2	10	✓		
5 ↓ -3	↓	✓		
6 ↓ -5	↓	✓		
7 FA36526-1	1	✓		
8 ↓ -1F	2	✓		
9 FA36538-1	15	✓		
10 ↓ -2	↓	✓		
11 ↓ -3	↓	✓		
12 FA36536-1	2	✓		
13 FA36537-2	4	✓		
14 FA36542-1	3	✓		
15 FA36549-3	1	✓		
16 ↓ -5	↓	✓		
17 ↓ -7	↓	✓		
18 FA36552-1	3	✓		
19 FA36429-1	13 25.0	✓		
20 (b) (6)				
21 E				
22 E				
23 E				
24 E				

Analyst:

QC Review:

Date: 08/31/16

Date: 8-31-16

A Used for SB, MS, MSD

B For reagent volumes used consult SOP MET 103, current revision

C Parent sample used to prepare: MS, MSD, DUP

D Bottle Number

E Additional matrix QC

icpwaterdigestionlog 0316.xls

Rev 03/04/16 DM

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(b) (6)

★

08/31/16



LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ARCADIS U.S., Inc.
401 E. Main Street, Suite 400

November 21, 2016

(b) (6)

SUBJECT: Fort Bliss, Castner Range, Data Validation

(b) (6)

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on November 14th & 15th, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #37460:

SDG

Fraction:

FA35653, FA36526 Metals

The data validation was performed under Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Quality Assurance Project Plan, Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas, February 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, 5.0, July 2013
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

(b) (6)

**Data Validation Report
Fort Bliss, Castner Range**

SDGs: FA35653, FA36526

Prepared for

Arcadis U.S., Inc.
401 E. Main Street, Suite 400
El Paso, TX 79901

Prepared by

Laboratory Data Consultants, Inc.
2701 Loker Ave West, Suite 220
Carlsbad, CA 92010

November 21, 2016

INTRODUCTION

This Data Validation Report (DVR) presents Level III data validation results for samples collected during the July through August 2016 sampling period. Data validation was performed in accordance with the Final Quality Assurance Project Plan (QAPP), Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas (February 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and the USEPA CLPNFG Inorganic Superfund Data Review (October 2004). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Metals by EPA SW 846 Method 6010C

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment 2. Level III Automated Data Review outliers are presented in Enclosure I.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, instrument performance check, initial and continuing calibrations, laboratory blanks, initial and continuing calibration blanks (ICB/CCBs), interference check (ICSA and ICSAB) samples, laboratory control sample (LCS), split duplicate samples, and internal standards.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the instrument performance check, calibrations, interference check samples, ICB/CCBs, and internal standards which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP, DoD QSM and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detect at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NJ (Presumptive). Presumptive evidence of presence of the compound at an estimated quantity.
- NA (Not applicable): Data did not warrant qualification since detected results only are affected and the compound was not detected in the associated samples.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt & Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Instrument Performance Check

Instrument performance was checked at the frequency required by the method.

All criteria for the instrument performance check were met.

III. Initial Calibration and Initial Calibration Verification

All criteria for the initial calibration and initial calibration verifications of the method were met.

IV. Continuing Calibration

All criteria for the continuing calibration verifications (CCV) of the method were met.

V. Laboratory Blanks

Laboratory blanks were performed as required by the method. No contaminant concentrations were detected in the method blanks reviewed by ADR.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the following exceptions:

SDG/ Method	Blank ID	Analyte	Maximum Concentration	Associated Samples
FA35653/ 6010C	ICB/CCB	Antimony	2.2 ug/L	FTBL-SS-B42-0-6-071516-QA FTBL-SS-B50-12-24-071816-QA FTBL-SS-B45-0-6-071916-QA FTBL-SS-B18-0-6-072016-QA FTBL-SS-B03-0-6-072116-QA
FA36526/ 6010C	ICB/CCB	Beryllium	0.30 ug/L	FTBL-SP-03-082916-QA FTBL-SP-03-082916-QAF

Sample concentrations were compared to concentrations detected in the initial or continuing calibration blanks. The sample concentrations were not detected or were significantly greater than the concentrations found in the associated blanks with the following exceptions:

SDG/Method	Sample	Compound	Reported Concentration	Modified Final Concentration
FA35653/ 6010C	FTBL-SS-B45-0-6-071916-QA	Antimony	2.1 ug/L	2.1U ug/L

VI. Field Blanks

No field blanks were identified in these SDGs.

VII. ICP Interference Check Sample (ICS) Analysis

The frequency of ICS analysis was met.

The criteria for ICS analysis were met.

VIII. Surrogates

Surrogates were not required by the method.

IX. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in these SDGs, and therefore matrix spike and matrix spike duplicate analyses were not performed.

X. Duplicate Sample Analysis/Triplicate Sample Analysis

The laboratory has indicated that there were no duplicates (DUP) and triplicate (TRP) analyses specified for the samples in these SDGs, and therefore duplicate and triplicate analyses were not performed.

XI. Serial Dilution

Serial dilution was not performed for this SDG.

XII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XIII. Field Duplicates/Split Samples

No field duplicates were identified in this SDG.

Samples FTBL-SS-B42-0-6-071516-QA (from SDG FA35653) and FTBL-SS-B42-0-6-071516 (from SDG K1608210), FTBL-SS-B50-12-24-071816-QA (from SDG FA35653) and FTBL-SS-B50-12-24-071816 (from SDG K1608207), FTBL-SS-B45-0-6-071916-QA (from SDG FA35653) and FTBL-SS-B45-0-6-071916 (from SDG K1608209), FTBL-SS-B18-0-6-072016-QA (from SDG FA35653) and FTBL-SS-B18-0-6-072016 (from SDG K1608344), FTBL-SS-B03-0-6-072116-QA (from SDG FA35653) and FTBL-SS-B03-0-6-072116 (from SDG K1608325), FTBL-SP-03-082916-QA (from SDG FA36526) and FTBL-SP-03-082916 (from SDG K1610116), and FTBL-SP-03-082916-QAF (from SDG FA36526) and FTBL-SP-03-082916F (from SDG K1610116), were identified as split samples. No metals were detected in any of the split samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD (≤ 50)	Qualifiers
	FTBL-SS-B45-0-6-071916 (SDG: K1608209)	FTBL-SS-B45-0-6-071916QA (SDG: FA35653)		
Antimony	0.543	2.1	118	NQ
Copper	18.7	17.3	8	
Lead	56.0	215	117	Jdet/A (det)
Zinc	54.7	48.7	13	

Analyte	Concentration (mg/Kg)		RPD (≤ 50)	Qualifiers
	FTBL-SS-B42-0-6-071516 (SDG: K1608210)	FTBL-SS-B42-0-6-071516QA (SDG: FA35653)		
Antimony	0.894	0.83U	7	
Copper	24.1	24.4	1	
Lead	122	102	18	
Zinc	68.8	61.8	11	

Analyte	Concentration (mg/Kg)		RPD (≤ 50)	Qualifiers
	FTBL-SS-B03-0-6-072116 (SDG: K1608325)	FTBL-SS-B03-0-6-072116QA (SDG: FA35653)		
Antimony	0.136	2.8U	181	NQ
Copper	9.48	9.8	3	
Lead	23.6	25.7	9	
Zinc	45.5	52.3	14	

Analyte	Concentration (mg/Kg)		RPD (≤ 50)	Qualifiers
	FTBL-SS-B18-0-6-072016 (SDG: K1608344)	FTBL-SS-B18-0-6-072016QA (SDG: FA35653)		
Antimony	0.126	0.74U	142	NQ
Copper	16.8	14.6	14	

Analyte	Concentration (mg/Kg)		RPD (≤ 50)	Qualifiers
	FTBL-SS-B18-0-6-072016 (SDG: K1608344)	FTBL-SS-B18-0-6-072016QA (SDG: FA35653)		
Lead	25.2	22.4	12	
Zinc	51.6	39.3	27	

Analyte	Concentration (mg/Kg)		RPD (≤ 50)	Qualifiers
	FTBL-SP-03-082916 (SDG: K1610116)	FTBL-SP-03-082916QA (SDG: FA36526)		
Antimony	0.429	5.0U	168	NQ
Arsenic	0.7	5.0U	151	NQ
Beryllium	3.03	3.1	2	
Copper	2.70	2.0	30	
Lead	0.117	2.0U	178	NQ
Nickel	1.08	1.0U	8	

Analyte	Concentration (mg/Kg)		RPD (≤ 50)	Qualifiers
	FTBL-SP-03-082916F (SDG: K1610116)	FTBL-SP-03-082916QAF (SDG: FA36526)		
Antimony	0.460	1.2	89	NQ
Arsenic	0.6	5.0U	157	NQ
Beryllium	2.85	2.8	2	
Copper	2.49	1.9	27	
Lead	0.074	2.0U	186	NQ
Nickel	1.07	1.0U	7	

NQ = One or both results were $< 5\times$ the Limit of Quantitation (LOQ), therefore no data were qualified.

XIV. Internal Standards

All internal standard percent recoveries were within QC limits.

XV. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the limit of quantitation (LOQ) as detected by the laboratory were qualified as detected estimated (J). The details regarding the qualification of data are provided in Enclosure I.

XVI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in these SDGs.

Due to split sample RPD, data were qualified as estimated in one sample.

Due to results being reported below the LOQ, data were qualified as estimated in three samples.

Due to calibration blank contamination, data were qualified as not detected in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Data flags are summarized and are presented as Attachment 2

Attachment 1

Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
15-Jul-2016	FTBL-SS-B42-0-6-071516-QA	FA35653-1	N	3050B	6010C	III
18-Jul-2016	FTBL-SS-B50-12-24-071816-	FA35653-2	N	3050B	6010C	III
19-Jul-2016	FTBL-SS-B45-0-6-071916-QA	FA35653-3	N	3050B	6010C	III
20-Jul-2016	FTBL-SS-B18-0-6-072016-QA	FA35653-4	N	3050B	6010C	III
21-Jul-2016	FTBL-SS-B03-0-6-072116-QA	FA35653-5	N	3050B	6010C	III
29-Aug-2016	FTBL-SP-03-082916-QA	FA36526-1	N	3010A	6010C	III

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: FA35653, FA36526

Laboratory: ACTO

EDD Filename: FA35653-SEDD_2a_1, FA36526-SEDD_2a_1

eQAPP Name: Arcadis_FtBliss_Accutest_160627

SDG: FA35653

Method Category: METALS

Method: 6010C

Matrix: Soil

Sample ID: FTBL-SS-B03-0-6-072116-QA

7/21/2016 12:10:00
Collected: PM

Analysis Type: Dilution-01

Dilution: 10

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
COPPER	9.8	J	1.1	LOD	14	LOQ	mg/Kg	J	RI

Sample ID: FTBL-SS-B45-0-6-071916-QA

7/19/2016 11:25:00
Collected: AM

Analysis Type: Initial

Dilution: 4

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	2.1	J	1.0	LOD	4.0	LOQ	mg/Kg	U	Cb
LEAD	215		0.80	LOD	4.0	LOQ	mg/Kg	J	Fd

SDG: FA36526

Method Category: METALS

Method: 6010C

Matrix: Water

Sample ID: FTBL-SP-03-082916-QA

8/29/2016 1:50:00
Collected: PM

Analysis Type: Initial/DIS

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	2.8	J	1.0	LOD	4.0	LOQ	ug/L	J	RI
COPPER	1.9	J	2.0	LOD	25	LOQ	ug/L	J	RI
ANTIMONY	1.2	J	5.0	LOD	6.0	LOQ	ug/L	J	RI

Sample ID: FTBL-SP-03-082916-QA

8/29/2016 1:50:00
Collected: PM

Analysis Type: Initial/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	3.1	J	1.0	LOD	4.0	LOQ	ug/L	J	RI
COPPER	2.0	J	2.0	LOD	25	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: - USACE Project: Castner Firing Range; Ft Bliss, TX

11/15/2016 12:58:25 PM

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Data Qualifier Summary

Lab Reporting Batch ID: FA35653, FA36526

Laboratory: ACTO

EDD Filename: FA35653-SEDD_2a_1, FA36526-SEDD_2a_1

eQAPP Name: Arcadis_FtBliss_Accutest_160627

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
Cb	Calibration Blank Contamination
Fd	Field Duplicate Precision
Rl	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: - USACE Project: Castner Firing Range; Ft Bliss, TX

11/15/2016 12:58:25 PM

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Enclosure I
Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

FA35653

Reporting Limit Outliers

Lab Reporting Batch ID: FA35653

Laboratory: ACTO

EDD Filename: FA35653-SEDD_2a_1

eQAPP Name: Arcadis_FtBliss_Accutest_160627

Method: 6010C

Matrix: Soil

<i>SampleID</i>	<i>Analyte</i>	<i>Lab Qual</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>RL Type</i>	<i>Units</i>	<i>Flag</i>
FTBL-SS-B03-0-6-072116-QA	COPPER	J	9.8	14	LOQ	mg/Kg	J (all detects)
FTBL-SS-B45-0-6-071916-QA	ANTIMONY	J	2.1	4.0	LOQ	mg/Kg	J (all detects)

Project Name and Number: - USACE Project: Castner Firing Range; Ft Bliss, TX

11/15/2016 11:50:33 AM

ADR version 1.9.0.325

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LDC #: 37460A4b
SDG #: FA35653
Laboratory: Accutest

VALIDATION COMPLETENESS WORKSHEET
Level ADR

Date: 11/15/16
Page: 1 of 1

(b) (6)

METHOD: Metals (EPA SW 846 Method 6010C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/N	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	A	
IV.	Laboratory Blanks	SW	ICB/CCB only
V.	Field Blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	
VII.	Duplicate sample analysis	N	
VIII.	Serial Dilution	N	Not Performed
IX.	Laboratory control samples	N	
X.	Split Field Duplicates	SW	*see Below
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	FTBL-SS-B42-0-6-071516-QA	FA35653-1	Soil	07/15/16
2	FTBL-SS-B50-12-24-071816-QA	FA35653-2	Soil	07/18/16
3	FTBL-SS-B45-0-6-071916-QA	FA35653-3	Soil	07/19/16
4	FTBL-SS-B18-0-6-072016-QA	FA35653-4	Soil	07/20/16
5	FTBL-SS-B03-0-6-072116-QA	FA35653-5	Soil	07/21/16
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

Parent Sample for #2 was on hold and never reported in SDG: K1608207

Split Dup = (3, FTBL-SS-B45-0-6-071916) (SDG: K1608209)
(1, FTBL-SS-B42-0-6-071516) (SDG: K1608210)
(5, FTBL-SS-B03-0-6-072116) (SDG: K1608325)

All circled elements are applicable to each sample.

[illegible]

Comments: Mercury by CVAA if performed

PB/ICB/CCB QUALIFIED SAMPLES

(b) (6)

METHOD: Metals (EPA SW 864 Method 6010/6020/7000)

Soil preparation factor applied: _____

Sample Concentration units, unless otherwise noted: _____

Associated Samples: _____ All (Dil: 1-4 = 5X; 5 = 10X)

					Sample Identification									
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (µg/l)	Maximum ICB/CCB ^a (µg/l)	Blank Action Limit	3									
Sb			2.2	11	2.1									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC#: 37460A4b

VALIDATION FINDINGS WORKSHEET (b) (6) *Split* ~~Field Duplicates~~

METHOD: Metals (EPA Method 6010B/7000)

Y N NA
Y N NA

Were field duplicate pairs identified in this SDG?

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤50)	Qual. (Parent Only)
	FTBL-SS-B45-0-6-071916 (SDG: K1608209)	3		
Antimony	0.543	2.1	118	NQ
Copper	18.7	17.3	8	
Lead	56.0	215	117	Jdet/A (det)
Zinc	54.7	48.1	13	

Analyte	Concentration (mg/Kg)		RPD (≤50)	Qual. (Parent Only)
	FTBL-SS-B42-0-6-071516 (SDG: K1608210)	1		
Antimony	0.894	0.83U	7	
Copper	24.1	24.4	1	
Lead	122	102	18	
Zinc	68.8	61.8	11	

Analyte	Concentration (mg/Kg)		RPD (≤50)	Qual. (Parent Only)
	FTBL-SS-B03-0-6-072116 (SDG: K1608325)	5		
Antimony	0.136	2.8U	181	NQ
Copper	9.48	9.8	3	
Lead	23.6	25.7	9	
Zinc	45.5	52.3	14	

Split ~~Field Duplicates~~

(b) (6)

METHOD: Metals (EPA Method 6010B/7000)

Y/N NA

Were field duplicate pairs identified in this SDG?

Y/N NA

Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤50)	Qual. (Parent Only)
	FTBL-SS-B18-0-6-072016 (SDG: K1608344)	4		
Antimony	0.126	0.74U	142	NQ
Copper	16.8	14.6	14	
Lead	25.2	22.4	12	
Zinc	51.6	39.3	27	

No qual because one or both results < 5X LOQ

\\LDCFILESERVER\Validation\FIELD DUPLICATES\FD_inorganic\37460A4b.wpd

Quality Control Outlier Reports

FA36526

Reporting Limit Outliers

Lab Reporting Batch ID: FA36526

Laboratory: ACTO

EDD Filename: FA36526-SEDD_2a_1

eQAPP Name: Arcadis_FtBliss_Accutest_160627

Method: 6010C

Matrix: Water

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
FTBL-SP-03-082916-QA	ANTIMONY	J	1.2	6.0	LOQ	ug/L	J (all detects)
	BERYLLIUM	J	2.8	4.0	LOQ	ug/L	
	COPPER	J	1.9	25	LOQ	ug/L	

Project Name and Number: - USACE Project: Castner Firing Range; Ft Bliss, TX

11/15/2016 12:59:40 PM

ADR version 1.9.0.325

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LDC #: 37460B4b
SDG #: FA36526
Laboratory: Accutest

VALIDATION COMPLETENESS WORKSHEET Level ADR

Date: 11/5/16

(b) (6)

METHOD: Metals (EPA SW 846 Method 6010C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/N	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	A	
IV.	Laboratory Blanks	SW	ICB/CCB only
V.	Field Blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	
VII.	Duplicate sample analysis	N	
VIII.	Serial Dilution	N	Not Performed
IX.	Laboratory control samples	N	
X.	Field Duplicates	SW	Split D.P. (2, FTBL-SP-03-082916F) (1, FTBL-SP-03-082916) (SDG: F16) 0116
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

** Samples appended with "F" were analyzed as Dissolved

	Client ID	Lab ID	Matrix	Date
1	FTBL-SP-03-082916-QA	FA36526-1	Water	08/29/16
2	FTBL-SP-03-082916-QAF	FA36526-1F	Water	08/29/16
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

LDC #: 374603411

VALIDATION FINDINGS WORKSHEET

Sample Specific Element Reference

(b) (6)

All circled elements are applicable to each sample.

[illegible]

Comments: Mercury by CVAA if performed

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

(b) (6)

METHOD: Metals (EPA SW 864 Method 6010/6020/7000)

Soil preparation factor applied: _____

Sample Concentration units, unless otherwise noted: _____ ug/L

Associated Samples: _____ All

					Sample Identification									
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Blank Action Limit	No Qual.									
Be			0.30	1.5										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC#: 37460B4b

VALIDATION FINDINGS WORKSHEET (b) (6)

Split ~~Field Duplicates~~

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (mg/Kg)		RPD (≤35)	Qual. (Parent Only)
	FTBL-SP-03-082916 (SDG: K1610116)	1		
Antimony	0.429	5.0U	168	NQ
Arsenic	0.7	5.0U	151	NQ
Beryllium	3.03	3.1	2	
Copper	2.70	2.0	30	
Lead	0.117	2.0U	178	NQ
Nickel	1.08	1.0U	8	

Analyte	Concentration (mg/Kg)		RPD (≤35)	Qual. (Parent Only)
	FTBL-SP-03-082916F (SDG: K1610116)	2		
Antimony	0.460	1.2	89	NQ
Arsenic	0.6	5.0U	157	NQ
Beryllium	2.85	2.8	2	
Copper	2.49	1.9	27	
Lead	0.074	2.0U	186	NQ
Nickel	1.07	1.0U	7	

NQ = No qual. if one or both results are < 5X LOQ

V:\FIELD DUPLICATES\FD_inorganic\37460B4b.wpd



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August 01, 2016

Analytical Report for Service Request No: K1606639

(b) (6)

ARCADIS U.S., Inc.
401 East Main Street
Suite 400
El Paso, TX 79901

RE: Castner / 06261038.0001.00400

(b) (6)

Enclosed are the results of the sample(s) submitted to our laboratory June 16, 2016
For your reference, these analyses have been assigned our service request number **K1606639**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is (b) (6). You may also contact me via

(b) (6)

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

(b) (6)



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Table of Contents

Acronyms

Qualifiers

State Certifications, Accreditations, And Licenses

Case Narrative

Chain of Custody

Metals

Raw Data

Metals

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS ENVIRONMENTAL

Client: ARCADIS U.S., Inc.
Project: Castner/ 06261038.0001.00400
Sample Matrix: Water

Service Request No.: K1606639
Date Received: 06/16/16

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample was received for analysis at ALS Environmental on 06/16/16. The sample was received in good condition and consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Total Metals

No anomalies associated with the analysis of these samples were observed.

(b) (6)





TRRP

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Appendix A ALS Kelso-Laboratory Data Package Signature Page

This data package consists of:

- ☒ This signature page, the laboratory review checklist, and the following reportable data:
- ☒ R1 Field chain-of-custody documentation;
- ☒ R2 Sample identification cross-reference;
- ☒ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- ☒ R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- ☒ R5 Test reports/summary forms for blank samples;
- ☒ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- ☒ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- ☒ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- ☒ R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- ☒ R10 Other problems or anomalies.
- ☒ The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable:] [This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature

(b) (6)

A large black rectangular redaction box covers the signature area, with the text "(b) (6)" in red at the top left corner.

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 8/03/2016			
Project Name: Closed Castner Firing Range				Laboratory Job Number: K1606639			
Reviewer Name: (b) (6)				Prep Batch Number(s): Various			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 8/03/2016			
Project Name: Closed Castner Firing Range				Laboratory Job Number: K1606639			
Reviewer Name: (b) (6)				Prep Batch Number(s): Various			
#1	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 8/03/2016
Project Name: Closed Castner Firing Range	Laboratory Job Number: K1606639
Reviewer Name: (b) (6)	Prep Batch Number(s): Various
ER# ⁵	Description
<p>Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);</p> <p>NA = Not Applicable;</p> <p>NR = Not Reviewed;</p> <p>R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>	



Chain of Custody

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Phone (360)577-7222 Fax (360)636-1068
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CHAIN OF CUSTODY

68811

001

SR#

COC Set 1 of 1

COC#

Page 1 of 1

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www.a1sglobal.com

[illegible]

Report Requirements

- ☐ I. Routine Report: Method Blank, Surrogate, as required
- ☐ II. Report Dup., MS, MSD as required
- ☐ III. CLP Like Summary (no raw data)
- ☐ IV. Data Validation Report
- ☒ V. EDD

Invoice Information

P.O.# 06261038.0001.00400

Bill To: Acadia's AP
Highlands Ranch, Co
80129

Turnaround Requirements

☐ 24 hr. ☐ 48 hr.
☐ 5 Day
☒ Standard

Requested Report Date

Circle which metals are to be analyzed

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Special Instructions/Comments:

*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other (Circle One)

Please also send results to Melissa.Osborne@warcades.com

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
(b) (6)		Signature	Signature	Signature	Signature
		Printed Name	Printed Name	Printed Name	Printed Name
		Firm	Firm	Firm	Firm
		Date/Time	Date/Time	Date/Time	Date/Time



(b) (6)

P

Cooler Receipt and Preservation Form

Client Arcadis Service Request K16 06639Received: 6/16/16 Opened: 6/16/16 By: CU Unloaded: 6/16/16 By: CU

1. Samples were received via? Mail ☒ Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) ☒ Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA ☒ Y N If yes, how many and where? 1 front
- If present, were custody seals intact? ☒ Y N If present, were they signed and dated? ☒ Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.7	-0.7	4.1	4.1	0.0	367	68811	7833 6921 1179	
-0.6	-0.7	4.1	1.0	-0.1	365	L	7833 6921 1180	
		6/16/16						

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
5. Were custody papers properly filled out (ink, signed, etc.)? NA ☒ Y N
6. Did all bottles arrive in good condition (unbroken)? Indicate in the table below. NA ☒ Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA ☒ Y N
8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA ☒ Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA ☒ Y N
10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below. NA ☒ Y N
11. Were VOA vials received without headspace? Indicate in the table below. ☒ NA Y N
12. Was C12/Res negative? ☒ NA ☒ Y N

Sample ID on Bottle	Sample ID on COC	Identified by: <u>6/16/16</u>

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions:

Page of



Metals

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Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1606639
Project No.: 06261038.0001.00400 **Date Collected:** 06/15/16
Project Name: Closed Castner Firing Range **Date Received:** 06/16/16
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-03-061516 **Lab Code:** K1606639-001

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	07/07/16	07/29/16	0.801		
Arsenic	6020A	0.5	0.3	0.2	1.0	07/07/16	07/29/16	1.5		
Beryllium	6020A	0.020	0.020	0.006	1.0	07/07/16	07/29/16	1.71		
Copper	6020A	0.10	0.05	0.02	1.0	07/07/16	07/29/16	2.00		
Lead	6020A	0.020	0.010	0.004	1.0	07/07/16	07/29/16	0.525		
Nickel	6020A	0.20	0.05	0.02	1.0	07/07/16	07/29/16	1.78		
Zinc	6020A	0.5	0.5	0.2	1.0	07/07/16	07/29/16	14.5		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1606639
Project No.: 06261038.0001.00400 **Date Collected:** 06/15/16
Project Name: Closed Castner Firing Range **Date Received:** 06/16/16
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-03-061516 **Lab Code:** K1606639-001DISS

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	07/07/16	07/29/16	0.117		
Arsenic	6020A	0.5	0.3	0.2	1.0	07/07/16	07/29/16	1.5		
Beryllium	6020A	0.020	0.020	0.006	1.0	07/07/16	07/29/16	2.24		
Copper	6020A	0.10	0.05	0.02	1.0	07/07/16	07/29/16	1.36		
Lead	6020A	0.020	0.010	0.004	1.0	07/07/16	07/29/16	0.623		
Nickel	6020A	0.20	0.05	0.02	1.0	07/07/16	07/29/16	1.15		
Zinc	6020A	0.5	0.5	0.2	1.0	07/07/16	07/29/16	2.4		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1606639
Project No.: 06261038.0001.00400 **Date Collected:**
Project Name: Closed Castner Firing Range **Date Received:**
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: Method Blank **Lab Code:** KQ1607568-01

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	07/07/16	07/29/16	0.012	U	
Arsenic	6020A	0.5	0.3	0.2	1.0	07/07/16	07/29/16	0.3	U	
Beryllium	6020A	0.020	0.020	0.006	1.0	07/07/16	07/29/16	0.020	U	
Copper	6020A	0.10	0.05	0.02	1.0	07/07/16	07/29/16	0.05	U	
Lead	6020A	0.020	0.010	0.004	1.0	07/07/16	07/29/16	0.008	J	
Nickel	6020A	0.20	0.05	0.02	1.0	07/07/16	07/29/16	0.05	U	
Zinc	6020A	0.5	0.5	0.2	1.0	07/07/16	07/29/16	0.5	U	

Comments:

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc.

Service Request: K1606639

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	25.0	26.2	105	25.0	24.7	99	24.7	99	6020A
Arsenic	25.0	25.6	102	25.0	25.1	100	25.0	100	6020A
Beryllium	2.5	2.6	104	25.0	24.7	99	24.7	99	6020A
Copper	12.5	12.8	102	25.0	25.1	100	24.7	99	6020A
Lead	25.0	25.5	102	25.0	25.2	101	25.2	101	6020A
Nickel	25.0	25.3	101	25.0	25.3	101	24.9	100	6020A
Zinc	25.0	25.1	100	25.0	25.2	101	25.1	100	6020A

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc.

Service Request: K1606639

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	24.9	100			6020A
Arsenic				25.0	25.3	101			6020A
Beryllium				25.0	24.3	97			6020A
Copper				25.0	24.7	99			6020A
Lead				25.0	25.2	101			6020A
Nickel				25.0	24.5	98			6020A
Zinc				25.0	25.2	101			6020A

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc.

SDG No.: K1606639

Contract: 06261038.0001.00400

Lab Code: CASK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICVW									
	Antimony	0.046	0.05	92	80.0 - 120.0	MS	07/29/16	07:02	072916AMS
	Arsenic	0.58	0.5	116	80.0 - 120.0	MS	07/29/16	07:02	072916AMS
	Beryllium	0.018	0.02	90	80.0 - 120.0	MS	07/29/16	07:02	072916AMS
	Copper	0.093	0.10	93	80.0 - 120.0	MS	07/29/16	07:02	072916AMS
	Lead	0.022	0.02	110	80.0 - 120.0	MS	07/29/16	07:02	072916AMS
	Nickel	0.20	0.20	100	80.0 - 120.0	MS	07/29/16	07:02	072916AMS
	Zinc	0.50	0.50	100	80.0 - 120.0	MS	07/29/16	07:02	072916AMS
LLCCVW1									
	Antimony	0.053	0.05	106	70.0 - 130.0	MS	07/29/16	09:09	072916AMS
	Arsenic	0.53	0.5	106	70.0 - 130.0	MS	07/29/16	09:09	072916AMS
	Beryllium	0.018	0.02	90	70.0 - 130.0	MS	07/29/16	09:09	072916AMS
	Copper	0.100	0.10	100	70.0 - 130.0	MS	07/29/16	09:09	072916AMS
	Lead	0.024	0.02	120	70.0 - 130.0	MS	07/29/16	09:09	072916AMS
	Nickel	0.20	0.20	100	70.0 - 130.0	MS	07/29/16	09:09	072916AMS
	Zinc	0.51	0.50	102	70.0 - 130.0	MS	07/29/16	09:09	072916AMS

Metals

- 3 -
BLANKS

Client: ARCADIS U.S., Inc.

Service Request: K1606639

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Method
		C	1	C	2	C	3	C	
Antimony	0.015	J	0.006	U	0.006	U	0.012	J	6020A
Arsenic	0.2	U	0.2	U	0.2	U	0.2	U	6020A
Beryllium	0.006	U	0.006	U	0.006	U	0.006	U	6020A
Copper	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Lead	0.005	J	0.004	U	0.007	J	0.007	J	6020A
Nickel	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Zinc	0.2	U	0.2	U	0.2	U	0.2	U	6020A

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: ARCADIS U.S., Inc.

Service Request: K1606639

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICP ID Number: K-ICP-MS-03

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony	0.0		0.05	0.02				
Arsenic	0.00	25.00	-0.11	23.71	95			
Beryllium	0.00		0.018	0.005				
Copper	0.0	50.0	2.29	45.9	92			
Lead	0.0		0.16	0.12				
Nickel	0.0	50.0	1.30	47.3	95			
Zinc	0.0	25.0	1.99	25.3	101			

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1606639
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER

Sample Name: FTBL-SP-03-061516S

Lab Code: K1606639-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	49.8		0.801		50	98.0		6020A
Arsenic	84 - 116	51.3		1.52		50	99.6		6020A
Beryllium	83 - 121	4.02		1.71		2.5	92.4		6020A
Copper	85 - 115	13.3		2.00		12.5	90.4		6020A
Lead	88 - 115	48.9		0.525		50	96.8		6020A
Nickel	85 - 117	24.2		1.78		25	89.7		6020A
Zinc	83 - 119	37.3		14.5		25	91.2		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1606639
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER

Sample Name: FTBL-SP-03-061516SD

Lab Code: K1606639-001SD

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	49.9		0.801		50	98.2		6020A
Arsenic	84 - 116	50.8		1.52		50	98.6		6020A
Beryllium	83 - 121	3.93		1.71		2.5	88.8		6020A
Copper	85 - 115	13.3		2.00		12.5	90.4		6020A
Lead	88 - 115	48.8		0.525		50	96.6		6020A
Nickel	85 - 117	23.7		1.78		25	87.7		6020A
Zinc	83 - 119	38.1		14.5		25	94.4		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5B -

POST SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1606639
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER

Sample Name: FTBL-SP-03-061516A

Lab Code: K1606639-001A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	75 - 125	21.869		0.801		20.0	105		6020A
Arsenic	75 - 125	22.6		1.5		20.0	106		6020A
Beryllium	75 - 125	21.168		1.705		20.0	97		6020A
Copper	75 - 125	21.46		2.00		20.0	97		6020A
Lead	75 - 125	20.809		0.525		20.0	101		6020A
Nickel	75 - 125	20.56		1.78		20.0	94		6020A
Zinc	75 - 125	33.86		14.52		20.0	97		6020A

Metals
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DUPLICATES

Client: ARCADIS U.S., Inc. **Service Request:** K1606639
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER

Sample Name: FTBL-SP-03-061516SD

Lab Code: K1606639-001SD

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony	20	49.8		49.9		0.2		6020A
Arsenic	20	51.3		50.8		1.0		6020A
Beryllium	20	4.02		3.93		2.3		6020A
Copper	20	13.3		13.3		0.0		6020A
Lead	20	48.9		48.8		0.2		6020A
Nickel	20	24.2		23.7		2.1		6020A
Zinc	20	37.3		38.1		2.1		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

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LABORATORY CONTROL SAMPLE

Client: ARCADIS U.S., Inc.

Service Request: K1606639

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Aqueous LCS Source: ALS MIXED

Solid LCS Source:

Analyte	Aqueous (ug/L)			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Antimony	50	48.4	96.8						
Arsenic	50	48.0	96.0						
Beryllium	2.5	2.37	94.8						
Copper	12.5	11.9	95.2						
Lead	50	49.3	98.6						
Nickel	25	23.9	95.6						
Zinc	25	23.6	94.4						

Metals

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ICP SERIAL DILUTIONS

Client: ARCADIS U.S., Inc.

Service Request: K1606639

Project No.: 06261038.0001.00400

Units: UG/L

Project Name: Closed Castner Firing Range

Sample Name: FTBL-SP-03-061516L

Lab Code: K1606639-001L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	M
Antimony	0.801	0.723	10		MS
Arsenic	1.52	1.81	19	J	MS
Beryllium	1.705	1.947	14	J	MS
Copper	2.00	2.20	10		MS
Lead	0.525	0.578	10		MS
Nickel	1.78	1.79	1		MS
Zinc	14.52	17.10	18	J	MS

Metals**- 10 -****DETECTION LIMITS****Client:** ARCADIS U.S., Inc.**Service Request:** K1606639**Project No.:** 06261038.0001.00400**Project Name:** Closed Castner Firing Range**ICP/ICP-MS ID #:** K-ICP-MS-03**GFAA ID #:****AA ID #:**

Analyte	Isotope	Back-ground	LOQ ug/L	LOD ug/L	MDL ug/L	M
Antimony	123		0.050	0.013	0.006	MS
Arsenic	75		0.50	0.25	0.20	MS
Beryllium	9		0.020	0.020	0.006	MS
Copper	65		0.10	0.05	0.02	MS
Lead	208		0.020	0.010	0.004	MS
Nickel	60		0.20	0.05	0.02	MS
Zinc	66		0.50	0.50	0.20	MS

Comments:

Metals

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ICP LINEAR RANGES (QUARTERLY)

Client: ARCADIS U.S., Inc.

Service Request: K1606639

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICP ID Number: K-ICP-MS-03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	15.000	2000	6020A
Arsenic	15.000	2000	6020A
Beryllium	15.000	2000	6020A
Copper	15.000	2000	6020A
Lead	15.000	2000	6020A
Nickel	15.000	2000	6020A
Zinc	15.000	2000	6020A

Comments:

Metals
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PREPARATION LOG

Client: ARCADIS U.S., Inc.

Service Request: K1606639

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1606639-001	07/07/16	25.0	25.0
K1606639-001DISS	07/07/16	25.0	25.0
K1606639-001S	07/07/16	25.0	25.0
K1606639-001SD	07/07/16	25.0	25.0
KQ1607568-01	07/07/16	25.0	25.0
KQ1607568-02	07/07/16	25.0	25.0

Metals
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ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc.

Service Request: K1606639

Project No.: 06261038.0001.00400

Run Number: 072916AMS03

Project Name: Closed Castner Firing Range

Instrument ID Number: K-ICP-MS-03

Method: MS

Start Date: 07/29/16

End Date: 07/29/16

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K S	S E	A G	N A	T L	V	Z N	C N				
Cal. Blk	1.0	06:13			X	X		X					X		X				X							X					
Cal. Stn	1.0	06:17			X	X		X					X		X				X							X					
ICV1	1.0	06:20			X	X		X					X		X				X							X					
CCV1	1.0	06:24			X	X		X					X		X				X							X					
ICB1	1.0	06:35			X	X		X					X		X				X							X					
CCB1	1.0	06:39			X	X		X					X		X				X							X					
ZZZZZZ	1.0	06:49																													
LLICVW	1.0	07:02			X	X		X					X		X				X							X					
ZZZZZZ	1.0	07:05																													
ICS-A1	1.0	07:11			X	X		X					X		X				X							X					
ICS-AB1	1.0	07:15			X	X		X					X		X				X							X					
KQ1607568-01	1.0	07:18			X	X		X					X		X				X							X					
ZZZZZZ	1.0	07:22																													
ZZZZZZ	1.0	07:25																													
K1606639-001DISS	1.0	07:29			X	X		X					X		X				X							X					
K1606639-001	1.0	07:32			X	X		X					X		X				X							X					
K1606639-001L	5.0	07:36			X	X		X					X		X				X							X					
K1606639-001A	1.0	07:40			X	X		X					X		X				X							X					
K1606639-001S	1.0	07:43			X	X		X					X		X				X							X					
K1606639-001SD	1.0	07:46			X	X		X					X		X				X							X					
KQ1607568-02	1.0	07:50			X	X		X					X		X				X							X					
CCV2	1.0	07:54			X	X		X					X		X				X							X					
ZZZZZZ	1.0	08:03																													
CCB2	1.0	08:07			X	X		X					X		X				X							X					
ZZZZZZ	1.0	08:10																													
ZZZZZZ	1.0	08:14																													
ZZZZZZ	1.0	08:18																													
ZZZZZZ	1.0	08:21																													
ZZZZZZ	1.0	08:40																													
ZZZZZZ	1.0	08:43																													
ZZZZZZ	1.0	08:47																													
ZZZZZZ	1.0	08:50																													

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
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 ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc. Service Request: K1606639
 Project No.: 06261038.0001.00400 Run Number: 072916AMS03
 Project Name: Closed Castner Firing Range

Instrument ID Number: K-ICP-MS-03 Method: MS
 Start Date: 07/29/16 End Date: 07/29/16

Sample No.	D/F	Time	% R	Analytes																					
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S G	A A	N L	T V	Z N
CCV3	1.0	08:54			X	X		X					X		X				X						X
CCB3	1.0	09:03			X	X		X					X		X				X						X
LLCCVW1	1.0	09:09			X	X		X					X		X				X						X

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: 06261038.0001.00400Lab Code: CASK Case No.: _____ NRAS No.: _____ SDG NO.: K1606639ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 07/29/2016 End Date: 07/29/2016

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Li_6	Q	Element Sc_45	Q	Element Ga_71	Q	Element Rh_103	Q	Element In_115	Q	Element Lu_175	Q
Cal. Blk	Cal. Blk	0613	100		100		100		100		100		100	
Cal. Stn	Cal. Stn	0617	101		99		101		99		99		100	
ICV1	ICV1	0620	98		99		99		99		100		101	
CCV1	CCV1	0624	98		98		100		100		101		102	
ICB1	ICB1	0635	103		102		102		101		101		100	
CCB1	CCB1	0639	101		100		100		100		100		100	
ZZZZZZ	ZZZZZZ	0649												
LLICVW	LLICVW	0702	101		100		99		100		100		100	
ZZZZZZ	ZZZZZZ	0705												
ICS-A1	ICSA	0711	92		92		90		88		91		94	
ICS-AB1	ICSAB	0715	95		91		91		88		92		96	
KQ1607568-01	Method Blank	0718	98		96		96		97		98		101	
ZZZZZZ	ZZZZZZ	0722												
ZZZZZZ	ZZZZZZ	0725												
K1606639-001DISS	FTBL-SP-03-06151	0729	93		106		93		92		95		100	
K1606639-001	FTBL-SP-03-06151	0732	93		103		93		93		96		102	
K1606639-001L	FTBL-SP-03-06151	0736	88		97		97		98		100		105	
K1606639-001A	FTBL-SP-03-06151	0740	87		102		92		94		98		105	
K1606639-001S	FTBL-SP-03-06151	0743	85		100		92		93		98		105	
K1606639-001SD	FTBL-SP-03-06151	0746	89		102		92		93		97		104	
KQ1607568-02	Lab Control	0750	92		97		98		100		101		104	
CCV2	CCV2	0754	89		95		98		100		101		104	
ZZZZZZ	ZZZZZZ	0803												
CCB2	CCB2	0807	96		99		100		102		103		104	
ZZZZZZ	ZZZZZZ	0810												
ZZZZZZ	ZZZZZZ	0814												
ZZZZZZ	ZZZZZZ	0818												
ZZZZZZ	ZZZZZZ	0821												
ZZZZZZ	ZZZZZZ	0840												
ZZZZZZ	ZZZZZZ	0843												
ZZZZZZ	ZZZZZZ	0847												
ZZZZZZ	ZZZZZZ	0850												
CCV3	CCV3	0854	93		96		96		97		99		102	
CCB3	CCB3	0903	97		100		99		100		102		103	
LLCCVW1	LLCCVW1	0909	101		101		100		101		102		102	



Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run: 265481 **Prep Workflow:** MetDigAqMS **Status:** Prepped **Prep Date:** 07/07/2016
Team: Metals **EPA CLP-:** **Current Step:** Digestion **13:13**
Analyst: Anna **Prep Method:** METALS **Due Date:** 07/03/2016
 Cheatley **ILM04.0** **Hold Date:** 12/12/2016
Rush/NPDES: N/A

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1607568-01	Method Blank		25 mL	25 mL			Metals D, Metals T	1%HNO3 ULTREX, 0.05mL HCl
KQ1607568-02	Lab Control Sample		25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	88551 172187 172654	Metals D, Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1606639-001	FTBL-SP-03-061516	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1606639-001	FTBL-SP-03-061516	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1606639-001: KQ1607568-03	Matrix Spike	.01	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	88551 172187 172654	Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1606639-001: KQ1607568-04	Duplicate Matrix Spike	.01	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	88551 172187 172654	Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1606648-009	EB061516	.03	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1606708-005	FB061616	.03	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1606753-005	EB061716	.04	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1606753-006	FTBL-SP-05-061716	.04	25 mL	25 mL			Metals D, Metals T	1%HNO3 ULTREX, 0.05mL HCl

9 Total Samples consisting of 5 Client Samples, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
k-met 1/100 QCP CICV-1	Spike	172654	10/14/2016	k-met Sb Sug/mL Sb	Spike	88551	7/21/2016
k-met 1/100 QCP-CICV-3	Spike	172187	10/14/2016				

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET 50ml Centrifuge Tube	88716	Digestion	K-MET HNO3 ULTREX	88761

Preparation Hardware / Equipment

Step	Name	Property	Value	Step	Name	Property	Value
Digestion	K-BlockDigester-05	Corrected Temperature	96	Digestion	K-BlockDigester-05	Thermometer ID 1108396	NONE
Digestion	K-BlockDigester-05	Correction Factor	0	Digestion	K-BlockDigester-05	Thermometer Location	32
Digestion	K-BlockDigester-05	Observed Temperature	211918066				

Preparation Steps

<u>Step</u>	<u>Started</u>	<u>Finished</u>	<u>By</u>	<u>Assisted By</u>	<u>Training?</u>	<u>Comments</u>
Digestion	07-JUL-16 13:13	07-JUL-16 15:13	Anna Cheatley		N	

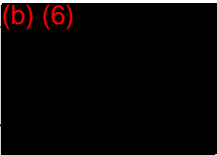
Comments

HCl lot #53338

(b) (6)

Review

Reviewed by: _____

 7/7/16

ICP-MS LCSW AND SPIKING SOLUTIONS

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-1
k-met 1/100 QCP-CICV-1

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Al	10000	100
Ag	1250	12.5
Ba	10000	100
Be	250	2.5
Ca	25000	250
Co	2500	25
Cu	1250	12.5
Cr	1000	10
Fe	5000	50
K	25000	250
Mg	25000	250
Mn	2500	25
Na	25000	250
Ni	2500	25
V	2500	25
Zn	2500	25

2.50mL to 500mL Dilution of 1000ppm Sb

k-met 5ug/mL Sb

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Sb	5000	50

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-3
k-met 1/100 QCP-CICV-3

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
As	5000	50
Pb	5000	50
Se	5000	50
Tl	5000	50
Cd	2500	25

2.00mL to 200mL Dilution of 1,000 ppm Mo and 1,000 ppm U

k-met Mo/U 10ppm

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Mo	10000	20
U	10000	20

Service Request # K1606639
 Calibration 072916AMS03
 QC in calibration 072916AMS03
 QC Service Request # K1606639
 STARLIMS run # 507593
 Cal Std: MS20-71A ICSA Std: MS20-68H
 ICV Std: MS20-68F ICSAB Std: MS20-68I
 LLICV Std: MS20-68G I.S. Solution: MS20-46A

6020A DoD 5.0 Data Review Form

	Yes	No	NA
1. Mass calibration <0.1 amu?	<u>X</u>		
2. Resolution <0.9 amu at 10% peak height?	<u>X</u>		
3. Stability RSD ≤5% for five replicates?	<u>X</u>		
4. Appropriate standardization completed?	<u>X</u>		
5. ICV within 10% of true value?	<u>X</u>		
6. CCV's within 10% of true?	<u>X</u>		
7. ICB/CCB's <LOD?	<u>X</u>		
8. Initial Low-level cal. check ± 20%	<u>X</u>		
9. ICSA/ICSAB within ± 20%	<u>X</u>		
10. Method blank <½ the LOQ?	<u>X</u>		
11. LCS within DoD 5.0 limit?	<u>X</u>		
12. Spikes within DoD 5.0 limit?	<u>X</u>		
13. Duplicate Spike RPD <20% DoD limit?	<u>X</u>		
14. Serial dilution within 10%?	<u>X</u>		
15. Post spike within 80-120% DoD limit?	<u>X</u>		
16. Internal standards within 70-120%?	<u>X</u>		
17. Linear range established with LRS?	<u>X</u>		
18. Adequate rinse out time allowed?	<u>X</u>		
20. Interferences checked?	<u>X</u>		
21. Se over MRL?		<u>X</u>	
22. Cd Correction Applied?			<u>X</u>
23. Was run prematurely stopped, If so why?		<u>X</u>	

Comments: LRSTD=200 ppb.

Primary Review by
 Secondary Review by

(b) (6)

Date 7/29/16
 Date 7/29/16

R:\icp\misc\data review forms\6020 DoD Revi

Data Review Form

Service Request #: K1606639
Instrument ID#: K-ICP-MS-03
DataFile Name: R:\ICP\WIP\DATA\K-ICP-MS-03 (X-Series)
\072916AMS03.csv
RUNNO: 507593

K1606639-001SDL - Metals T

Serial Dillution

6020A/Metals T - Be9 - Recovery: 14 Limit:
6020A/Metals T - Zn66 - Recovery: 18 Limit:

*pds, ms, msd
in control*

Analytical Method 6020A

(b) (6)

Primary Approver: _____

Secondary Approver: _____

3.7/29/16

Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	Cal. Blk	Blank	1.000	0	1	1	145
2	Cal. Stn	Fully Quant Standard	1.000	0	1	2	145
3	ICV1	Unknown	1.000	0	1	3	145
4	CCV1	Unknown	1.000	0	1	2	145
5	ICB1	Unknown	1.000	0	1	1	145
6	CCB1	Unknown	1.000	0	1	1	145
7	LLICVW	Unknown	1.000	0	1	4	145
8	LLICVW	Unknown	1.000	0	1	4	145
9	LRSTD	Unknown	1.000	2	1	1	145
10	ICSA	Unknown	1.000	0	1	5	145
11	ICSAB	Unknown	1.000	0	1	6	145
12	KQ1607568-01	Unknown	1.000	1	1	1	145
13	K1606648-009	Unknown	1.000	1	1	3	145
14	K1606708-005	Unknown	1.000	1	1	4	145
15	K1606639-001 DISS	Unknown	1.000	1	1	5	145
16	K1606639-001	Unknown	1.000	1	1	6	145
17	K1606639-001L	Unknown	1.000	1	1	7	145
18	K1606639-001A	Unknown	1.000	1	1	8	145
19	K1606639-001S	Unknown	1.000	1	1	9	145
20	K1606639-001SD	Unknown	1.000	1	1	10	145
21	KQ1607568-02	Unknown	1.000	1	1	2	145
22	CCV2	Unknown	1.000	0	1	2	145
23	CCB2	Unknown	1.000	0	1	1	145
24	CCB2	Unknown	1.000	0	1	1	145
25	K1606753-005	Unknown	1.000	1	1	11	145
26	K1606753-006 DISS	Unknown	1.000	1	1	12	145
27	K1606753-006	Unknown	1.000	1	2	1	145
28	KQ1608586-01	Unknown	1.000	1	2	2	145
29	K1608303-001	Unknown	1.000	1	2	4	145
30	K1608303-001D	Unknown	1.000	1	2	5	145
31	K1608303-001S	Unknown	1.000	1	2	6	145
32	KQ1608586-02	Unknown	1.000	1	2	3	145
33	CCV3	Unknown	1.000	0	1	2	145
34	CCB3	Unknown	1.000	0	1	1	145
35	LLCCVW	Unknown	1.000	0	1	4	145

Sample details

Acquired at : 7/29/2016 5:49:14 AM

Report name : Kelso Performance Report 3 [8/24/2011 10:10:34 AM]

Tune conditions

Major		Minor		Global		Add. Gases
Extraction	-122	Lens 2	-18.0	Standard resolution	110	
Lens 1	4.7	Lens 3	-187.5	High resolution	71	
Focus	22.7	Forward power	1357	Analogue Detector	1951	
D1	-36.1	Horizontal	149	PC Detector	3481	
Pole Bias	0.6	Vertical	394			
Hexapole Bias	0.4	D2	-151			
Nebuliser	0.78	DA	-38.4			
Sampling Depth	63	Cool	13.0			
		Auxiliary	0.80			

Sensitivity and stability results**Acquisition parameters**

Sweeps : 400

Run	Time	5Bkg	7Li	9Be	24Mg	59Co	115In	140Ce	156Ce O	208Pb
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	5.0%	-	-	5.0%
	Count rate	-	>1000	>1000	>1000	>1000	>1000	-	-	>1000
1	5:49:45 AM	0.000	256783.32	56951.585	18454.462	42825.133	100640.00	108858.89	1895.698	62394.134
2	5:50:57 AM	0.000	258060.99	57870.108	18694.201	42844.222	100880.39	109367.94	1935.456	62844.974
3	5:52:10 AM	0.000	255363.66	57117.621	18781.130	43417.934	100847.02	108948.95	1929.705	62844.219
4	5:53:22 AM	0.000	260225.91	58308.143	18766.600	43136.600	100783.32	108735.17	1940.707	62785.062
5	5:54:35 AM	0.000	258056.11	57845.955	18799.668	43229.289	100417.81	108791.59	1930.205	62749.568
x		0.000	257698.00	57618.682	18699.212	43090.636	100713.71	108940.51	1926.354	62723.591
σ		0.00	1798.34	567.08	142.54	254.79	189.33	251.88	17.71	188.60
%RSD		0.000	0.698	0.984	0.762	0.591	0.188	0.231	0.919	0.301

Run	Time	209Bi	220Bkg	238U
Dwell (mSecs)		10.0	10.0	10.0
Limits	%RSD	5.0%	-	5.0%
	Count rate	>1000	-	>1000
1	5:49:45 AM	97837.654	0.000	119562.35
2	5:50:57 AM	98828.535	0.000	120333.67
3	5:52:10 AM	98379.201	0.000	120293.65
4	5:53:22 AM	98373.894	0.000	120044.64
5	5:54:35 AM	98641.268	0.250	120604.73
x		98412.110	0.050	120167.81
σ		373.65	0.11	392.43
%RSD		0.380	223.607	0.327

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0300
1	5:49:45 AM	0.017
2	5:50:57 AM	0.018
3	5:52:10 AM	0.018
4	5:53:22 AM	0.018
5	5:54:35 AM	0.018
x		0.0177
σ		0.00
%RSD		0.9118

Result : The performance report passed.

Performance Report

Sample details

Acquired at : 7/29/2016 5:49:14 AM

Report name : Kelso Performance Report 3 [8/24/2011 10:10:34 AM]

Mass Calibration verification

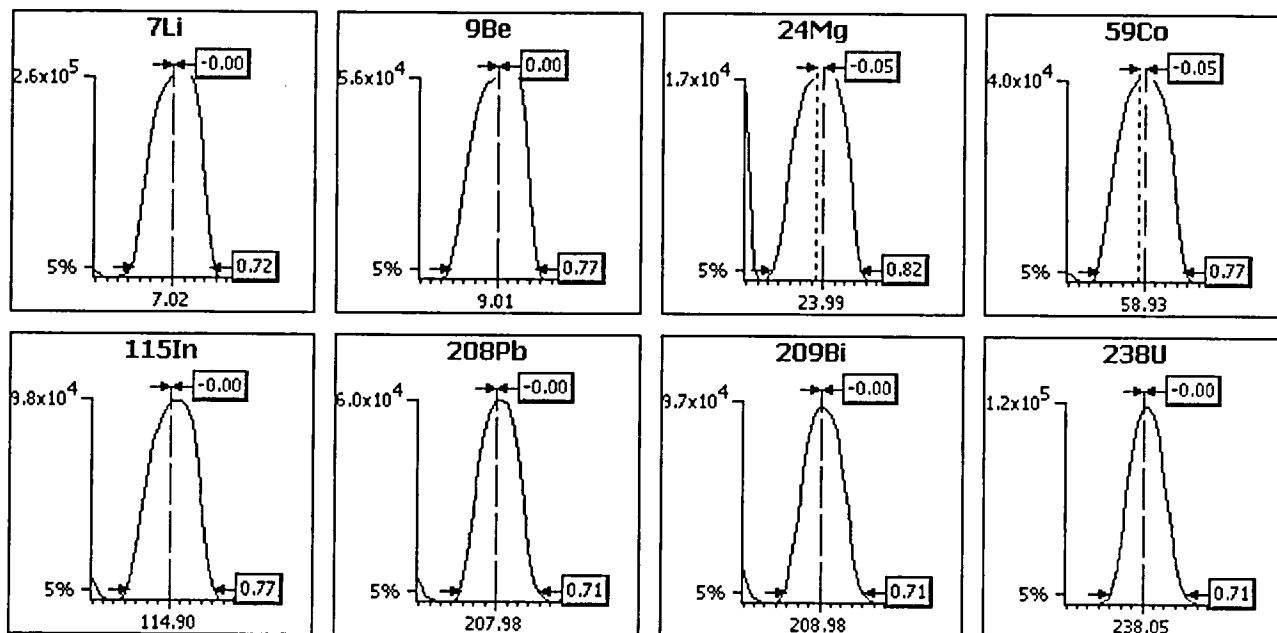
Acquisition parameters

Sweeps : 100

Dwell : 1.0 mSecs

Point spacing : 0.05 amu

Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.90	0.60	0.10	0.72	-0.00
9Be	0.90	0.60	0.10	0.77	0.00
24Mg	0.90	0.60	0.10	0.82	-0.05
59Co	0.90	0.60	0.10	0.77	-0.05
115In	0.90	0.60	0.10	0.77	-0.00
208Pb	0.90	0.60	0.10	0.71	-0.00
209Bi	0.90	0.60	0.10	0.71	-0.00
238U	0.90	0.60	0.10	0.71	-0.00

Dilution Corrected Concentrations

Cal. Blk 7/29/2016 6:13:35 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:13:35	104.3%	0.0016	101.5%	0.0043	0.0056	-0.0006	0.0009	-0.0037
2	06:14:13	100.8%	-0.0008	100.3%	-0.0033	0.0075	0.0075	-0.0017	0.0032
3	06:14:50	94.8%	-0.0008	98.2%	-0.0010	-0.0131	-0.0068	0.0008	0.0005
X		100.0%	0.0000	100.0%	-0.0000	-0.0000	-0.0000	-0.0000	-0.0000
σ		4.8%	0.0014	1.6%	0.0039	0.0114	0.0072	0.0015	0.0034
%RSD		4.8	0.0000	1.6	0.0000	0.0000	0.0000	0.0000	0.0000
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:13:35	0.0030	0.0041	0.0027	100.5%	0.0281	0.0311	-0.0297	0.1167
2	06:14:13	-0.0067	-0.0086	-0.0098	99.0%	-0.0135	-0.0851	-0.0320	-0.1171
3	06:14:50	0.0037	0.0046	0.0071	100.5%	-0.0146	0.0541	0.0617	0.0003
X		0.0000	0.0000	-0.0000	100.0%	0.0000	-0.0000	0.0000	0.0000
σ		0.0058	0.0075	0.0088	0.9%	0.0244	0.0746	0.0535	0.1169
%RSD		0.0000	0.0000	0.0000	0.9	0.0000	0.0000	0.0000	0.0000
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:13:35	100.6%	99.8%	0.0014	-0.0011	99.9%	-0.0004	-0.0007	-0.0004
2	06:14:13	100.4%	100.0%	-0.0001	0.0027	100.1%	0.0004	-0.0000	0.0003
3	06:14:50	99.1%	100.1%	-0.0014	-0.0016	100.0%	0.0000	0.0007	0.0000
X		100.0%	100.0%	-0.0000	0.0000	100.0%	0.0000	-0.0000	0.0000
σ		0.8%	0.1%	0.0014	0.0024	0.1%	0.0004	0.0007	0.0004
%RSD		0.8	0.1	0.0000	0.0000	0.1	0.0000	0.0000	0.0000

Cal. Stn 7/29/2016 6:17:03 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:17:03	103.3%	24.9267	100.9%	25.0889	25.0637	25.2760	25.0686	25.0211
2	06:17:41	99.1%	25.0789	99.6%	24.8155	24.9676	24.7769	25.1587	25.1280
3	06:18:18	101.6%	24.9944	97.6%	25.0956	24.9686	24.9471	24.7727	24.8510
X		101.4%	25.0000	99.4%	25.0000	25.0000	25.0000	25.0000	25.0000
σ		2.1%	0.0762	1.6%	0.1598	0.0552	0.2537	0.2019	0.1397
%RSD		2.1	0.3049	1.6	0.6393	0.2208	1.0149	0.8077	0.5588
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:17:03	25.1409	25.1226	25.0625	100.3%	25.2632	24.7893	25.4442	25.4193
2	06:17:41	24.8884	24.7481	25.1636	101.2%	24.8669	24.7689	24.9978	24.5370
3	06:18:18	24.9707	25.1293	24.7739	100.3%	24.8698	25.4418	24.5580	25.0437
X		25.0000	25.0000	25.0000	100.6%	25.0000	25.0000	25.0000	25.0000
σ		0.1288	0.2182	0.2023	0.5%	0.2280	0.3828	0.4431	0.4427
%RSD		0.5150	0.8727	0.8090	0.5	0.9119	1.5311	1.7725	1.7709
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:17:03	99.3%	98.8%	24.8529	24.9019	99.4%	24.9619	24.9858	24.9995
2	06:17:41	98.5%	99.6%	24.9060	24.8938	100.1%	25.1015	25.1861	25.1997
3	06:18:18	98.7%	98.8%	25.2411	25.2044	101.4%	24.9366	24.8280	24.8007
X		98.8%	99.1%	25.0000	25.0000	100.3%	25.0000	25.0000	25.0000
σ		0.4%	0.5%	0.2105	0.1770	1.0%	0.0888	0.1795	0.1995
%RSD		0.4	0.5	0.8419	0.7081	1.0	0.3552	0.7179	0.7979

ICV1 7/29/2016 6:20:23 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:20:23	99.3%	2.6474	100.2%	24.7765	25.3788	25.5752	12.6077	12.7885
2	06:21:00	97.5%	2.5349	99.6%	24.5836	25.3106	25.4429	12.8136	12.9071
3	06:21:38	97.7%	2.5792	98.0%	24.4056	25.2571	25.0341	12.3839	12.5572
X		98.1%	2.5872	99.3%	24.5886	25.3155	25.3507	12.6017	12.7510
σ		1.0%	0.0567	1.1%	0.1855	0.0610	0.2821	0.2149	0.1780
%RSD		1.0	2.1910	1.1	0.7545	0.2410	1.1129	1.7052	1.3957
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:20:23	25.4020	29.4509	27.9875	99.1%	25.7628	26.8761	26.3823	26.8747
2	06:21:00	24.9155	28.6651	27.9320	98.8%	25.7603	26.9868	26.7822	26.5482
3	06:21:38	25.0177	29.1785	27.4343	100.2%	25.3000	25.3937	25.6114	24.8166
X		25.1117	29.0982	27.7846	99.4%	25.6077	26.4189	26.2586	26.0798
σ		0.2565	0.3990	0.3046	0.8%	0.2665	0.8895	0.5951	1.1061
%RSD		1.0214	1.3711	1.0964	0.8	1.0406	3.3671	2.2662	4.2412
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:20:23	97.9%	98.9%	26.4369	26.2773	99.3%	25.0292	26.0875	25.5610
2	06:21:00	99.8%	100.8%	26.2275	26.1001	101.1%	24.9298	25.8356	25.3647
3	06:21:38	98.8%	99.6%	26.2469	26.1953	101.1%	24.8377	25.9211	25.4791
X		98.9%	99.8%	26.3038	26.1909	100.5%	24.9322	25.9481	25.4682
σ		0.9%	1.0%	0.1157	0.0887	1.1%	0.0958	0.1281	0.0986
%RSD		0.9	1.0	0.4399	0.3386	1.0	0.3843	0.4936	0.3871

CCV1 7/29/2016 6:24:39 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:24:39	97.4%	25.2434	100.8%	25.1650	25.2879	25.0638	25.0308	24.7786
2	06:25:17	98.8%	24.3884	98.9%	24.7724	25.2825	24.8653	25.0714	25.3709
3	06:25:55	97.2%	24.4515	95.3%	25.5547	25.2784	25.0312	24.9875	25.2741
X		97.8%	24.6944	98.3%	25.1640	25.2830	24.9868	25.0299	25.1412
σ		0.9%	0.4765	2.8%	0.3912	0.0048	0.1065	0.0419	0.3177
%RSD		0.9	1.9295	2.8	1.5545	0.0188	0.4261	0.1675	1.2637
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:24:39	24.9014	24.7701	24.9637	100.3%	25.5390	24.7500	25.3393	24.7260
2	06:25:17	25.6241	26.7148	25.0729	98.8%	24.8141	26.2831	26.0240	24.7421
3	06:25:55	25.1307	24.7779	25.0462	99.7%	24.8446	25.8039	24.9117	24.9891
X		25.2187	25.4210	25.0276	99.6%	25.0659	25.6124	25.4250	24.8191
σ		0.3693	1.1205	0.0569	0.7%	0.4100	0.7843	0.5611	0.1475
%RSD		1.4644	4.4080	0.2274	0.7	1.6356	3.0622	2.2068	0.5942
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:24:39	100.0%	101.2%	24.4701	24.4360	101.0%	25.1988	25.2763	25.2359
2	06:25:17	99.2%	101.2%	24.9043	24.7011	103.1%	24.9238	25.1017	25.0492
3	06:25:55	99.4%	101.8%	24.9976	24.8580	102.5%	25.1419	25.3475	25.2689
X		99.5%	101.4%	24.7907	24.6650	102.2%	25.0882	25.2419	25.1847
σ		0.4%	0.3%	0.2815	0.2133	1.1%	0.1452	0.1265	0.1185
%RSD		0.4	0.3	1.1357	0.8647	1.1	0.5787	0.5011	0.4704

ICB1 7/29/2016 6:35:15 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:35:15	102.6%	0.0018	103.5%	0.0021	0.0060	0.0353	0.0044	0.0081
2	06:35:53	105.8%	0.0007	100.8%	0.0043	0.0041	0.0251	0.0031	0.0145
3	06:36:37	100.1%	0.0011	102.0%	0.0033	0.0064	0.0385	0.0065	0.0069
X		102.8%	0.0012	102.1%	0.0033	0.0055	0.0330	0.0046	0.0098
σ		2.9%	0.0006	1.4%	0.0011	0.0012	0.0070	0.0017	0.0041
%RSD		2.8	48.0593	1.4	33.5614	22.5894	21.3276	36.1474	41.8799
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:35:15	0.0088	0.0087	0.0068	100.1%	0.0548	-0.1096	-0.0007	0.0935
2	06:35:53	0.0080	0.0025	0.0076	102.6%	0.0675	-0.0616	-0.2937	0.1614
3	06:36:37	0.0304	-0.0108	0.0112	101.8%	-0.0296	-0.0270	-0.2427	-0.1593
X		0.0157	0.0001	0.0085	101.5%	0.0309	-0.0661	-0.1790	0.0319
σ		0.0127	0.0100	0.0024	1.2%	0.0528	0.0415	0.1565	0.1690
%RSD		80.5875	7067.4432	27.5994	1.2	170.7106	62.7914	87.4398	530.5068
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:35:15	100.3%	100.5%	0.0082	0.0110	99.6%	0.0036	0.0012	0.0027
2	06:35:53	101.7%	101.6%	0.0144	0.0131	100.7%	0.0045	0.0033	0.0057
3	06:36:37	100.9%	100.5%	0.0172	0.0205	100.7%	0.0050	0.0062	0.0051
X		101.0%	100.9%	0.0133	0.0149	100.3%	0.0044	0.0036	0.0045
σ		0.7%	0.6%	0.0046	0.0050	0.7%	0.0007	0.0025	0.0016
%RSD		0.7	0.6	34.6239	33.3581	0.7	17.0367	71.4273	34.6402

CCB1 7/29/2016 6:39:03 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:39:03	103.5%	-0.0019	101.8%	0.0036	0.0049	0.0143	0.0015	0.0017
2	06:39:40	100.1%	0.0000	98.4%	0.0031	0.0063	0.0442	0.0020	0.0035
3	06:40:18	100.4%	-0.0029	99.5%	0.0050	0.0037	0.0025	0.0060	0.0100
X		101.3%	-0.0016	99.9%	0.0039	0.0050	0.0203	0.0032	0.0050
σ		1.9%	0.0015	1.8%	0.0010	0.0013	0.0215	0.0025	0.0044
%RSD		1.9	95.1097	1.8	26.1185	25.4376	105.7665	77.9209	86.6457
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:39:03	0.0196	-0.0056	0.0172	100.9%	0.0344	-0.0025	-0.2072	0.1166
2	06:39:40	0.0134	0.0279	0.0011	100.5%	0.0539	0.0316	-0.1635	0.2174
3	06:40:18	0.0240	0.0282	-0.0016	100.0%	0.0088	0.0224	-0.2388	0.0472
X		0.0190	0.0169	0.0056	100.4%	0.0323	0.0172	-0.2032	0.1271
σ		0.0053	0.0194	0.0101	0.5%	0.0226	0.0177	0.0378	0.0856
%RSD		28.1045	115.1370	181.3633	0.5	69.9670	102.9253	18.6231	67.3722
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:39:03	100.3%	99.8%	-0.0006	0.0039	98.9%	0.0032	0.0021	0.0019
2	06:39:40	100.1%	101.0%	0.0045	0.0079	100.4%	0.0039	0.0024	0.0030
3	06:40:18	99.8%	100.1%	0.0069	0.0054	99.9%	0.0033	0.0034	0.0035
X		100.1%	100.3%	0.0036	0.0057	99.7%	0.0035	0.0026	0.0028
σ		0.2%	0.6%	0.0038	0.0020	0.8%	0.0004	0.0007	0.0008
%RSD		0.2	0.6	107.2630	35.4621	0.8	10.2473	25.0507	28.9020

LLICVW 7/29/2016 6:49:43 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:49:43	98.3%	0.0136	99.0%	0.0474	0.1996	0.2382	0.0882	0.0996
2	06:50:21	97.4%	0.0135	100.0%	0.0414	0.1865	0.1811	0.0856	0.1128
3	06:50:58	98.4%	0.0203	97.2%	0.0478	0.1829	0.1603	0.0957	0.0858
x		98.0%	0.0158	98.7%	0.0455	0.1897	0.1932	0.0898	0.0994
σ		0.5%	0.0039	1.4%	0.0036	0.0088	0.0403	0.0052	0.0135
%RSD		0.5	24.8188	1.4	7.8206	4.6292	20.8852	5.8070	13.5852
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:49:43	0.4871	0.4799	0.4521	99.6%	0.5950	0.9915	0.7509	1.2017
2	06:50:21	0.5181	0.5469	0.4743	100.1%	0.4579	1.0502	0.9897	0.7528
3	06:50:58	0.5303	0.4524	0.4759	98.8%	0.3973	1.1779	0.8393	0.6663
x		0.5118	0.4931	0.4674	99.5%	0.4834	1.0732	0.8599	0.8736
σ		0.0223	0.0486	0.0133	0.7%	0.1013	0.0953	0.1207	0.2874
%RSD		4.3514	9.8591	2.8472	0.7	20.9532	8.8784	14.0394	32.9021
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:49:43	99.4%	99.9%	0.0403	0.0567	100.2%	0.0206	0.0195	0.0218
2	06:50:21	100.1%	100.5%	0.0482	0.0537	101.7%	0.0243	0.0221	0.0229
3	06:50:58	99.5%	100.5%	0.0522	0.0488	101.4%	0.0222	0.0248	0.0230
x		99.7%	100.3%	0.0469	0.0531	101.1%	0.0223	0.0221	0.0226
σ		0.4%	0.4%	0.0061	0.0040	0.8%	0.0019	0.0026	0.0007
%RSD		0.4	0.4	12.9757	7.4536	0.8	8.2952	11.8749	2.8987

LLICVW 7/29/2016 7:02:17 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:02:17	102.5%	0.0189	101.4%	0.0506	0.2093	0.2168	0.1000	0.1028
2	07:02:54	99.0%	0.0171	99.5%	0.0445	0.2045	0.2181	0.1079	0.0930
3	07:03:32	101.9%	0.0188	98.7%	0.0438	0.1988	0.1976	0.0847	0.0829
x		101.1%	0.0183	99.9%	0.0463	0.2042	0.2109	0.0975	0.0929
σ		1.9%	0.0010	1.4%	0.0037	0.0053	0.0115	0.0118	0.0099
%RSD		1.9	5.5267	1.4	8.0878	2.5807	5.4395	12.0619	10.6858
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:02:17	0.4970	0.5129	0.4778	98.2%	0.6307	0.8969	0.6940	1.2378
2	07:02:54	0.5208	0.5498	0.5273	99.6%	0.5382	0.8678	0.7779	0.9639
3	07:03:32	0.4731	0.4973	0.4829	99.9%	0.5637	1.0736	1.1060	1.1729
x		0.4970	0.5200	0.4960	99.3%	0.5775	0.9461	0.8593	1.1249
σ		0.0238	0.0270	0.0272	0.9%	0.0478	0.1114	0.2177	0.1431
%RSD		4.7969	5.1842	5.4937	0.9	8.2723	11.7725	25.3363	12.7221
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:02:17	98.8%	99.1%	0.0529	0.0455	99.1%	0.0246	0.0243	0.0228
2	07:02:54	100.5%	100.6%	0.0529	0.0429	100.2%	0.0213	0.0173	0.0229
3	07:03:32	100.1%	100.1%	0.0530	0.0484	99.9%	0.0201	0.0210	0.0214
x		99.8%	99.9%	0.0530	0.0456	99.7%	0.0220	0.0209	0.0224
σ		0.9%	0.8%	0.0001	0.0027	0.6%	0.0023	0.0035	0.0008
%RSD		0.9	0.8	0.1404	5.9978	0.6	10.6626	16.9273	3.6634

LRSTD 7/29/2016 7:05:34 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:05:34	104.0%	191.1999	100.2%	175.7865	192.8068	191.6239	196.9061	193.8579
2	07:06:11	99.7%	186.3875	96.1%	173.8710	193.3975	190.9102	190.6890	191.8958
3	07:06:49	99.9%	190.0031	95.6%	198.9855	198.0382	192.2259	195.8772	194.0909
X		101.2%	189.1968	97.3%	182.8810	194.7475	191.5867	194.4908	193.2815
σ		2.5%	2.5055	2.5%	13.9798	2.8651	0.6586	3.3324	1.2057
%RSD		2.4	1.3243	2.6	7.6442	1.4712	0.3438	1.7134	0.6238
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:05:34	191.2938	191.5874	191.7249	97.8%	200.2605	204.0379	200.6449	203.2336
2	07:06:11	191.1873	192.6116	192.1008	97.9%	198.0578	200.6971	200.7320	199.9752
3	07:06:49	192.3156	191.4614	190.7745	97.6%	195.4414	199.1041	199.0920	195.8670
X		191.5989	191.8868	191.5334	97.8%	197.9199	201.2797	200.1563	199.6919
σ		0.6230	0.6308	0.6836	0.2%	2.4125	2.5180	0.9227	3.6915
%RSD		0.3251	0.3288	0.3569	0.2	1.2189	1.2510	0.4610	1.8486
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:05:34	97.6%	104.1%	194.4033	193.6869	99.1%	202.4446	201.7756	205.0845
2	07:06:11	97.7%	104.3%	194.4935	193.7543	100.2%	202.0052	201.4883	205.2048
3	07:06:49	96.6%	104.3%	194.4240	191.6781	100.1%	202.6010	201.8188	205.6327
X		97.3%	104.2%	194.4403	193.0397	99.8%	202.3503	201.6942	205.3073
σ		0.6%	0.1%	0.0472	1.1797	0.6%	0.3089	0.1796	0.2881
%RSD		0.6	0.1	0.0243	0.6111	0.6	0.1527	0.0891	0.1403

ICSA 7/29/2016 7:11:47 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:11:47	93.5%	0.0050	91.5%	0.8416	1.2694	1.3982	2.9830	2.2643
2	07:12:24	90.5%	0.0277	92.6%	0.8138	1.2857	1.5412	2.9628	2.3232
3	07:13:02	91.6%	0.0213	91.9%	0.8176	1.3388	1.5262	2.9735	2.2941
X		91.9%	0.0180	92.0%	0.8244	1.2980	1.4885	2.9731	2.2939
σ		1.5%	0.0117	0.5%	0.0151	0.0363	0.0786	0.0101	0.0294
%RSD		1.7	65.1577	0.6	1.8296	2.7976	5.2793	0.3400	1.2833
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:11:47	2.0534	4.2466	1.7752	89.8%	-0.1378	1.8711	-0.2620	-0.3138
2	07:12:24	1.9714	4.2182	1.8101	90.2%	-0.1729	1.7031	0.1847	-0.5825
3	07:13:02	1.9580	4.1278	1.7806	91.1%	-0.0313	1.5142	-0.3393	-0.4295
X		1.9943	4.1975	1.7886	90.4%	-0.1140	1.6961	-0.1388	-0.4419
σ		0.0516	0.0620	0.0188	0.6%	0.0738	0.1785	0.2829	0.1347
%RSD		2.5881	1.4777	1.0496	0.7	64.7095	10.5259	203.7526	30.4880
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:11:47	86.9%	90.9%	0.0448	0.0398	93.7%	0.1539	0.1526	0.1525
2	07:12:24	87.3%	91.6%	0.0590	0.0575	94.3%	0.1663	0.1753	0.1683
3	07:13:02	88.2%	91.2%	0.0549	0.0562	94.3%	0.1703	0.1716	0.1690
X		87.5%	91.2%	0.0529	0.0512	94.1%	0.1635	0.1665	0.1633
σ		0.6%	0.3%	0.0073	0.0098	0.3%	0.0086	0.0122	0.0093
%RSD		0.7	0.4	13.8298	19.2213	0.4	5.2419	7.3163	5.7059

ICSAB 7/29/2016 7:15:06 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:15:06	95.3%	0.0035	91.6%	49.1963	47.7164	47.3156	46.9039	45.7829
2	07:15:44	94.4%	0.0071	92.3%	47.8496	47.0239	47.4303	46.3425	45.7617
3	07:16:21	93.8%	0.0054	88.7%	48.0821	47.1655	46.6355	46.6108	46.2120
X		94.5%	0.0053	90.9%	48.3760	47.3020	47.1271	46.6191	45.9189
σ		0.8%	0.0018	1.9%	0.7198	0.3659	0.4296	0.2808	0.2541
%RSD		0.8	34.2062	2.1	1.4880	0.7734	0.9115	0.6024	0.5534
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:15:06	25.3711	26.5573	23.9445	91.6%	23.6758	26.2268	23.7365	22.3276
2	07:15:44	24.9705	25.9249	24.3148	91.0%	24.1419	25.0660	23.6833	23.2023
3	07:16:21	25.4970	27.0096	24.1971	91.6%	23.2998	25.9388	24.0154	23.0511
X		25.2795	26.4973	24.1522	91.4%	23.7059	25.7439	23.8117	22.8603
σ		0.2749	0.5449	0.1892	0.4%	0.4219	0.6044	0.1784	0.4675
%RSD		1.0875	2.0563	0.7834	0.4	1.7795	2.3479	0.7492	2.0450
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:15:06	87.9%	91.1%	0.0273	0.0265	95.4%	0.1068	0.1220	0.1144
2	07:15:44	88.3%	92.7%	0.0230	0.0289	96.9%	0.1144	0.1258	0.1185
3	07:16:21	87.6%	93.2%	0.0195	0.0183	96.5%	0.1179	0.1146	0.1138
X		87.9%	92.3%	0.0233	0.0246	96.3%	0.1130	0.1208	0.1155
σ		0.4%	1.1%	0.0039	0.0056	0.8%	0.0057	0.0057	0.0025
%RSD		0.4	1.2	16.8269	22.7527	0.8	4.9991	4.7018	2.2022

KQ1607568-01 7/29/2016 7:18:57 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:18:57	99.1%	-0.0002	97.0%	-0.0121	-0.0040	0.1087	0.0148	0.0116
2	07:19:35	97.0%	0.0043	95.2%	-0.0049	0.0099	0.0573	0.0154	0.0139
3	07:20:11	97.0%	0.0016	95.3%	-0.0050	0.0043	0.0577	0.0169	0.0187
X		97.7%	0.0019	95.8%	-0.0073	0.0034	0.0746	0.0157	0.0147
σ		1.2%	0.0022	1.0%	0.0042	0.0070	0.0296	0.0011	0.0036
%RSD		1.3	117.6001	1.1	56.7260	205.3806	39.6713	7.0271	24.5377
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:18:57	0.0119	0.0487	0.0396	95.1%	-0.0226	2.0101	-0.3737	0.0060
2	07:19:35	-0.0021	0.0182	0.0026	96.5%	-0.0440	2.0779	-0.2167	0.0788
3	07:20:11	0.0120	0.0428	0.0269	96.2%	0.0248	1.9883	-0.6323	0.1349
X		0.0073	0.0366	0.0230	95.9%	-0.0139	2.0254	-0.4076	0.0732
σ		0.0081	0.0161	0.0188	0.7%	0.0352	0.0467	0.2098	0.0646
%RSD		111.9509	44.1473	81.6462	0.7	252.7393	2.3078	51.4842	88.2265
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:18:57	97.6%	96.7%	-0.0027	-0.0047	100.2%	0.0067	0.0083	0.0066
2	07:19:35	96.7%	98.0%	-0.0021	0.0031	101.7%	0.0082	0.0063	0.0080
3	07:20:11	97.7%	98.6%	-0.0009	-0.0015	102.5%	0.0060	0.0102	0.0080
X		97.4%	97.8%	-0.0019	-0.0010	101.4%	0.0070	0.0083	0.0075
σ		0.5%	1.0%	0.0009	0.0039	1.2%	0.0011	0.0019	0.0008
%RSD		0.6	1.0	47.3398	377.9376	1.2	16.2574	23.3552	10.4228

K1606648-009 7/29/2016 7:22:16 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:22:16	97.6%	-0.0011	96.9%	0.2623	0.0616	0.0896	0.1034	0.0879
2	07:22:53	95.4%	0.0057	97.4%	0.2835	0.0630	0.1001	0.1038	0.1121
3	07:23:31	94.1%	0.0029	93.9%	0.2719	0.0839	0.1029	0.1147	0.1089
x		95.7%	0.0025	96.1%	0.2726	0.0695	0.0976	0.1073	0.1030
σ		1.8%	0.0034	1.9%	0.0106	0.0125	0.0070	0.0064	0.0132
%RSD		1.8	136.8347	2.0	3.8916	17.9703	7.1829	5.9708	12.7751
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:22:16	0.4805	0.6198	0.4852	97.1%	-0.0503	2.1442	-0.6375	-0.0895
2	07:22:53	0.4889	0.5955	0.4920	95.4%	0.1363	1.7833	-0.2345	0.2170
3	07:23:31	0.5164	0.5711	0.4678	96.1%	0.0224	2.0996	-0.5110	0.0465
x		0.4953	0.5954	0.4817	96.2%	0.0361	2.0090	-0.4610	0.0580
σ		0.0188	0.0244	0.0124	0.8%	0.0940	0.1967	0.2061	0.1536
%RSD		3.7883	4.0901	2.5820	0.9	260.2299	9.7916	44.7040	264.7262
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:22:16	96.8%	97.1%	-0.0023	-0.0011	99.6%	0.0499	0.0499	0.0486
2	07:22:53	95.8%	97.8%	-0.0018	0.0020	101.0%	0.0462	0.0510	0.0471
3	07:23:31	96.4%	97.7%	-0.0001	-0.0002	100.9%	0.0564	0.0484	0.0499
x		96.3%	97.5%	-0.0014	0.0002	100.5%	0.0508	0.0498	0.0485
σ		0.5%	0.4%	0.0012	0.0016	0.8%	0.0052	0.0013	0.0014
%RSD		0.5	0.4	84.1613	660.3448	0.8	10.1351	2.6528	2.8643

K1606708-005 7/29/2016 7:25:43 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:25:43	95.4%	-0.0035	98.5%	0.1688	0.0764	0.1138	0.1177	0.1069
2	07:26:21	91.4%	0.0025	97.8%	0.1720	0.0686	0.0935	0.1039	0.1205
3	07:26:58	90.9%	-0.0010	95.7%	0.1696	0.0740	0.1169	0.1090	0.1133
x		92.6%	-0.0007	97.3%	0.1701	0.0730	0.1081	0.1102	0.1136
σ		2.4%	0.0030	1.5%	0.0016	0.0040	0.0127	0.0070	0.0068
%RSD		2.6	461.7844	1.5	0.9600	5.4892	11.7759	6.3657	5.9871
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:25:43	0.8663	0.9831	0.7711	96.1%	0.0715	1.9625	-0.5680	0.3212
2	07:26:21	0.8622	0.9240	0.7831	95.2%	-0.0370	2.1528	-0.2429	0.0057
3	07:26:58	0.8092	0.8648	0.7927	96.2%	-0.0432	2.1169	-0.2316	-0.0341
x		0.8459	0.9240	0.7823	95.8%	-0.0029	2.0774	-0.3475	0.0976
σ		0.0319	0.0592	0.0108	0.5%	0.0645	0.1011	0.1911	0.1946
%RSD		3.7662	6.4020	1.3797	0.6	2228.4189	4.8667	54.9820	199.4123
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:25:43	96.3%	97.0%	-0.0079	-0.0042	98.5%	0.0425	0.0412	0.0396
2	07:26:21	96.1%	96.5%	-0.0035	0.0001	100.3%	0.0409	0.0433	0.0422
3	07:26:58	96.7%	97.1%	-0.0027	-0.0017	99.7%	0.0406	0.0350	0.0388
x		96.4%	96.8%	-0.0047	-0.0019	99.5%	0.0413	0.0398	0.0402
σ		0.3%	0.3%	0.0028	0.0021	1.0%	0.0011	0.0043	0.0018
%RSD		0.3	0.3	59.0822	110.5491	1.0	2.5497	10.8174	4.4317

K1606639-001 DISS 7/29/2016 7:29:08 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:29:08	95.5%	2.2256	107.1%	4.9878	1.0991	0.9635	1.7879	1.3555
2	07:29:45	91.6%	2.1967	106.4%	5.0375	1.1566	0.9458	1.7984	1.3751
3	07:30:23	90.6%	2.2893	104.2%	5.0634	1.1844	0.8793	1.8184	1.3479
X		92.6%	2.2372	105.9%	5.0296	1.1467	0.9295	1.8016	1.3595
σ		2.6%	0.0474	1.5%	0.0384	0.0435	0.0444	0.0155	0.0140
%RSD		2.8	2.1177	1.5	0.7635	3.7945	4.7760	0.8604	1.0294
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:29:08	2.3641	4.9706	4.5338	93.1%	1.4780	3.6191	-0.1353	0.7400
2	07:29:45	2.4270	4.9030	4.4790	93.3%	1.4289	3.7905	-0.2195	0.7478
3	07:30:23	2.4685	5.3511	4.4669	92.2%	1.5823	3.0433	0.3150	0.8025
X		2.4199	5.0749	4.4932	92.9%	1.4964	3.4843	-0.0132	0.7634
σ		0.0525	0.2416	0.0356	0.6%	0.0783	0.3914	0.2874	0.0340
%RSD		2.1711	4.7608	0.7931	0.6	5.2354	11.2328	2169.4369	4.4564
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:29:08	92.4%	94.6%	0.1084	0.1126	99.0%	0.6440	0.6199	0.6191
2	07:29:45	92.2%	94.9%	0.1082	0.1230	100.6%	0.6547	0.5954	0.6208
3	07:30:23	92.6%	95.6%	0.1182	0.1163	100.1%	0.6364	0.6225	0.6304
X		92.4%	95.0%	0.1116	0.1173	99.9%	0.6450	0.6126	0.6234
σ		0.2%	0.5%	0.0057	0.0053	0.8%	0.0092	0.0150	0.0061
%RSD		0.2	0.6	5.1194	4.5019	0.8	1.4201	2.4452	0.9797

K1606639-001 7/29/2016 7:32:46 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:32:46	96.3%	1.7364	105.5%	7.0839	1.7441	1.5181	2.5343	2.0211
2	07:33:23	93.0%	1.6687	102.4%	7.1369	1.7897	1.4610	2.4128	2.0159
3	07:34:01	88.8%	1.7112	100.9%	7.0800	1.8153	1.5024	2.4099	1.9727
X		92.7%	1.7054	102.9%	7.1003	1.7830	1.4938	2.4523	2.0032
σ		3.7%	0.0343	2.4%	0.0318	0.0361	0.0295	0.0710	0.0266
%RSD		4.0	2.0083	2.3	0.4475	2.0222	1.9766	2.8963	1.3273
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:32:46	14.5510	16.8753	16.2519	93.2%	1.6125	3.1530	-0.0480	0.5881
2	07:33:23	14.3610	15.8317	16.0994	93.2%	1.3545	3.6920	0.2554	0.4290
3	07:34:01	14.6534	16.4240	16.2495	92.0%	1.5892	3.3394	0.0336	0.7421
X		14.5218	16.3770	16.2002	92.8%	1.5187	3.3948	0.0803	0.5864
σ		0.1484	0.5234	0.0873	0.7%	0.1427	0.2737	0.1570	0.1566
%RSD		1.0218	3.1956	0.5392	0.7	9.3978	8.0636	195.5295	26.7016
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:32:46	92.8%	95.4%	0.7851	0.7953	100.1%	0.5311	0.5350	0.5309
2	07:33:23	93.4%	95.9%	0.7875	0.8173	102.8%	0.5429	0.5274	0.5236
3	07:34:01	93.6%	95.9%	0.7991	0.7898	103.3%	0.5370	0.5246	0.5219
X		93.3%	95.7%	0.7906	0.8008	102.1%	0.5370	0.5290	0.5254
σ		0.4%	0.3%	0.0075	0.0145	1.7%	0.0059	0.0054	0.0048
%RSD		0.4	0.3	0.9430	1.8146	1.7	1.0972	1.0200	0.9103

K1606639-001L 7/29/2016 7:36:31 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:36:31	91.1%	0.3869	98.7%	1.5029	0.3395	0.3175	0.5428	0.4215
2	07:37:09	89.7%	0.3807	97.5%	1.4951	0.3715	0.2992	0.5288	0.4591
3	07:37:47	84.1%	0.4005	94.4%	1.4746	0.3627	0.3063	0.5183	0.4404
x		88.3%	0.3894	96.9%	1.4909	0.3579	0.3077	0.5300	0.4403
σ		3.7%	0.0101	2.2%	0.0146	0.0165	0.0092	0.0123	0.0188
%RSD		4.2	2.5996	2.3	0.9793	4.6196	3.0022	2.3240	4.2688
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:36:31	3.3505	4.0102	3.8141	96.4%	0.3579	0.5568	0.0317	0.1669
2	07:37:09	3.4514	3.6841	3.7297	97.1%	0.3653	0.8422	0.1512	0.3093
3	07:37:47	3.4561	3.9875	3.7020	96.3%	0.3633	0.6577	-0.0998	0.2307
x		3.4193	3.8939	3.7486	96.6%	0.3622	0.6856	0.0277	0.2357
σ		0.0597	0.1821	0.0584	0.4%	0.0038	0.1447	0.1256	0.0713
%RSD		1.7445	4.6753	1.5583	0.5	1.0582	21.1141	452.8683	30.2697
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:36:31	97.6%	100.3%	0.1450	0.1424	103.3%	0.1153	0.1166	0.1135
2	07:37:09	98.4%	100.5%	0.1494	0.1444	104.7%	0.1218	0.1141	0.1174
3	07:37:47	98.4%	100.3%	0.1562	0.1467	105.7%	0.1200	0.1186	0.1157
x		98.1%	100.4%	0.1502	0.1445	104.6%	0.1190	0.1164	0.1155
σ		0.5%	0.2%	0.0056	0.0022	1.2%	0.0034	0.0023	0.0019
%RSD		0.5	0.2	3.7348	1.5105	1.2	2.8519	1.9325	1.6689

K1606639-001A 7/29/2016 7:40:11 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:40:11	90.0%	21.1965	104.0%	25.4153	20.9104	20.6406	21.4938	21.6011
2	07:40:49	85.4%	21.0205	101.4%	25.7479	20.3796	20.6594	21.3932	21.4096
3	07:41:27	85.5%	21.2871	101.4%	25.0200	20.3917	20.5335	21.6381	21.3608
x		87.0%	21.1680	102.3%	25.3944	20.5606	20.6112	21.5084	21.4572
σ		2.6%	0.1356	1.5%	0.3644	0.3030	0.0679	0.1231	0.1270
%RSD		3.0	0.6404	1.4	1.4351	1.4737	0.3295	0.5722	0.5921
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:40:11	33.9133	36.5249	35.6340	91.3%	22.4528	24.4378	21.6329	21.4254
2	07:40:49	33.9915	36.1423	35.0003	92.2%	22.4916	25.5252	21.5191	21.3299
3	07:41:27	33.6641	35.3717	35.4687	91.6%	22.9425	23.0861	21.4105	21.3706
x		33.8563	36.0129	35.3676	91.7%	22.6290	24.3497	21.5208	21.3753
σ		0.1710	0.5874	0.3287	0.5%	0.2722	1.2219	0.1112	0.0479
%RSD		0.5051	1.6310	0.9294	0.5	1.2029	5.0183	0.5167	0.2243
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:40:11	92.9%	97.1%	22.0247	22.0358	103.7%	20.7323	20.7803	20.7659
2	07:40:49	93.8%	98.0%	22.0407	21.8743	105.5%	20.8792	20.7488	20.8358
3	07:41:27	94.3%	98.6%	22.0555	21.6959	105.7%	20.8857	20.6981	20.8253
x		93.6%	97.9%	22.0403	21.8687	105.0%	20.8324	20.7424	20.8090
σ		0.7%	0.7%	0.0154	0.1700	1.1%	0.0867	0.0415	0.0377
%RSD		0.7	0.8	0.0698	0.7774	1.0	0.4163	0.1999	0.1813

K1606639-001S

7/29/2016 7:43:28 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:43:28	87.5%	4.0644	101.6%	28.5110	24.1500	23.6153	13.4498	13.4624
2	07:44:06	84.4%	3.9199	99.2%	28.3481	24.2596	23.8665	13.5279	12.9876
3	07:44:44	83.9%	4.0805	99.5%	28.6855	24.0477	23.7052	13.6793	13.4996
x		85.3%	4.0216	100.1%	28.5148	24.1524	23.7290	13.5523	13.3165
σ		2.0%	0.0884	1.3%	0.1687	0.1060	0.1273	0.1167	0.2855
%RSD		2.3	2.1989	1.3	0.5917	0.4388	0.5363	0.8609	2.1439
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:43:28	37.6765	44.0832	41.7870	92.4%	51.2155	52.1182	49.9941	49.0886
2	07:44:06	36.9541	42.9719	41.9909	92.5%	51.2080	53.9051	49.4273	49.6967
3	07:44:44	37.3007	43.2209	42.3197	90.8%	51.4201	54.0206	50.2768	48.9615
x		37.3104	43.4253	42.0325	91.9%	51.2812	53.3480	49.8994	49.2489
σ		0.3613	0.5831	0.2688	1.0%	0.1204	1.0666	0.4326	0.3930
%RSD		0.9684	1.3428	0.6395	1.0	0.2347	1.9993	0.8669	0.7979
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:43:28	93.6%	97.3%	50.0832	49.8661	104.2%	47.7149	49.1847	48.7329
2	07:44:06	93.0%	97.9%	50.2040	49.5816	104.9%	47.7264	49.5951	48.9940
3	07:44:44	93.3%	97.4%	50.0102	49.8028	104.9%	47.9301	49.7472	48.9708
x		93.3%	97.5%	50.0991	49.7502	104.6%	47.7904	49.5090	48.8992
σ		0.3%	0.3%	0.0979	0.1494	0.4%	0.1211	0.2910	0.1445
%RSD		0.3	0.3	0.1953	0.3003	0.4	0.2533	0.5878	0.2955

K1606639-001SD

7/29/2016 7:46:57 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:46:57	89.5%	4.0037	103.0%	27.8989	23.8403	23.1553	13.5106	13.2493
2	07:47:35	88.9%	3.9922	102.6%	28.1043	23.6150	23.5837	13.6088	13.2429
3	07:48:13	88.4%	3.7930	99.3%	28.1203	23.6732	23.6276	13.5450	13.2949
x		88.9%	3.9296	101.6%	28.0412	23.7095	23.4555	13.5548	13.2623
σ		0.6%	0.1184	2.0%	0.1235	0.1170	0.2610	0.0498	0.0283
%RSD		0.7	3.0142	2.0	0.4404	0.4933	1.1126	0.3674	0.2137
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:46:57	38.0950	43.6166	42.3313	92.9%	51.0735	50.7761	49.4126	49.5193
2	07:47:35	38.1112	43.6753	42.1718	92.3%	50.7511	52.4916	49.9779	49.6407
3	07:48:13	38.2276	43.6271	42.7026	91.4%	50.5351	53.0774	50.2429	50.1959
x		38.1446	43.6397	42.4019	92.2%	50.7866	52.1150	49.8778	49.7853
σ		0.0724	0.0313	0.2724	0.8%	0.2709	1.1960	0.4241	0.3607
%RSD		0.1897	0.0717	0.6423	0.8	0.5335	2.2949	0.8503	0.7246
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:46:57	93.6%	96.5%	50.1223	49.9616	103.1%	47.5164	49.4605	48.6161
2	07:47:35	92.5%	97.3%	50.0470	50.1766	104.2%	47.8317	49.5882	48.8458
3	07:48:13	92.2%	96.6%	50.3082	49.6442	103.8%	47.7318	49.6265	48.8759
x		92.8%	96.8%	50.1592	49.9275	103.7%	47.6933	49.5584	48.7793
σ		0.7%	0.5%	0.1345	0.2678	0.5%	0.1612	0.0869	0.1421
%RSD		0.8	0.5	0.2680	0.5364	0.5	0.3379	0.1754	0.2913

KQ1607568-02 7/29/2016 7:50:30 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:50:30	97.2%	2.2910	98.4%	22.8927	23.7509	23.8218	11.9312	12.0385
2	07:51:07	91.4%	2.4003	97.5%	23.4048	23.8647	23.4644	11.5620	11.7276
3	07:51:45	86.3%	2.4193	95.7%	23.1548	24.2015	23.8755	11.8820	12.0433
X		91.6%	2.3702	97.2%	23.1508	23.9390	23.7206	11.7917	11.9365
σ		5.5%	0.0692	1.4%	0.2561	0.2343	0.2235	0.2005	0.1809
%RSD		6.0	2.9207	1.4	1.1062	0.9789	0.9421	1.7004	1.5153
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:50:30	23.8169	28.6675	26.4266	98.0%	47.4553	53.0468	49.4944	47.6897
2	07:51:07	23.4544	27.0893	26.0932	98.4%	47.5973	53.2934	48.9639	48.2028
3	07:51:45	23.6463	27.5839	25.8223	97.8%	48.8241	51.2646	49.0948	49.2739
X		23.6392	27.7802	26.1141	98.1%	47.9589	52.5349	49.1844	48.3888
σ		0.1814	0.8072	0.3027	0.3%	0.7526	1.1070	0.2764	0.8083
%RSD		0.7673	2.9057	1.1591	0.3	1.5693	2.1072	0.5619	1.6704
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:50:30	100.3%	101.2%	48.8175	48.3813	103.7%	47.8748	49.9587	49.0871
2	07:51:07	100.3%	101.1%	48.8650	48.6649	104.9%	48.2580	50.3383	49.3431
3	07:51:45	99.4%	101.4%	48.7882	48.1704	104.4%	48.1193	50.2981	49.3735
X		100.0%	101.2%	48.8236	48.4055	104.3%	48.0840	50.1984	49.2679
σ		0.5%	0.2%	0.0387	0.2481	0.6%	0.1940	0.2086	0.1573
%RSD		0.5	0.2	0.0793	0.5126	0.6	0.4035	0.4155	0.3192

CCV2 7/29/2016 7:54:06 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:54:06	93.8%	23.7330	97.6%	24.3160	24.8210	24.5711	24.2476	24.6960
2	07:54:44	87.3%	25.9082	93.9%	24.9616	25.0599	25.0531	23.9998	24.2482
3	07:55:22	86.9%	24.5224	94.9%	24.3999	24.8586	24.4388	24.4497	25.0078
X		89.3%	24.7212	95.4%	24.5592	24.9132	24.6877	24.2324	24.6507
σ		3.9%	1.1011	1.9%	0.3510	0.1285	0.3233	0.2254	0.3818
%RSD		4.4	4.4542	2.0	1.4293	0.5156	1.3098	0.9300	1.5489
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:54:06	24.9477	24.9884	24.7280	98.5%	24.7536	25.3261	25.2133	24.8489
2	07:54:44	25.0289	24.9970	25.1132	98.5%	25.2087	25.1487	25.6884	25.2014
3	07:55:22	25.2315	25.3627	24.9862	97.5%	25.0694	25.9036	25.9854	25.0284
X		25.0694	25.1160	24.9425	98.2%	25.0106	25.4595	25.6290	25.0262
σ		0.1462	0.2136	0.1963	0.6%	0.2332	0.3947	0.3895	0.1763
%RSD		0.5830	0.8506	0.7869	0.6	0.9325	1.5504	1.5196	0.7044
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:54:06	100.5%	101.0%	24.6811	24.5835	103.2%	25.1345	25.2855	25.1706
2	07:54:44	99.6%	101.7%	24.9394	24.7002	104.7%	25.1964	25.1219	25.2500
3	07:55:22	99.2%	101.3%	25.0365	24.7820	105.1%	25.2882	25.1004	25.1894
X		99.8%	101.3%	24.8857	24.6886	104.3%	25.2064	25.1693	25.2033
σ		0.6%	0.4%	0.1837	0.0998	1.0%	0.0773	0.1012	0.0415
%RSD		0.6	0.4	0.7382	0.4040	0.9	0.3069	0.4023	0.1647

CCB2 7/29/2016 8:03:36 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:03:36	96.5%	-0.0017	99.8%	-0.0009	0.0046	0.0172	0.0070	0.0038
2	08:04:14	93.4%	0.0049	101.0%	-0.0000	0.0105	0.0202	0.0166	0.0112
3	08:04:51	91.6%	0.0088	98.5%	0.0071	0.0182	0.0195	0.0223	0.0232
x		93.8%	0.0040	99.8%	0.0021	0.0111	0.0189	0.0153	0.0127
σ		2.5%	0.0053	1.2%	0.0044	0.0068	0.0015	0.0077	0.0098
%RSD		2.7	134.1955	1.2	214.6920	61.2763	8.1757	50.3439	77.0661
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:03:36	0.0035	0.0532	0.0028	98.6%	0.0644	0.1253	0.2799	0.2658
2	08:04:14	0.0267	0.0645	0.0196	100.6%	0.0048	0.1161	-0.0882	0.0396
3	08:04:51	0.0508	0.0740	0.0357	100.9%	0.0185	0.1696	-0.0555	0.1086
x		0.0270	0.0639	0.0194	100.0%	0.0292	0.1370	0.0454	0.1380
σ		0.0237	0.0104	0.0164	1.2%	0.0312	0.0286	0.2037	0.1159
%RSD		87.6589	16.2892	84.8817	1.2	106.8210	20.8951	448.9906	83.9832
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:03:36	101.0%	102.6%	0.0090	-0.0000	104.2%	0.0057	0.0052	0.0052
2	08:04:14	102.7%	104.6%	0.0195	0.0136	106.2%	0.0125	0.0171	0.0137
3	08:04:51	102.1%	104.2%	0.0219	0.0168	106.4%	0.0214	0.0211	0.0192
x		102.0%	103.8%	0.0168	0.0101	105.6%	0.0132	0.0145	0.0127
σ		0.8%	1.1%	0.0068	0.0090	1.2%	0.0079	0.0083	0.0071
%RSD		0.8	1.0	40.7551	88.2817	1.1	59.6502	57.1182	55.7757

CCB2 7/29/2016 8:07:18 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:07:18	97.0%	-0.0029	99.4%	0.0024	0.0117	0.0029	0.0089	0.0085
2	08:07:55	98.3%	-0.0034	99.4%	-0.0000	0.0000	0.0012	0.0090	0.0139
3	08:08:33	91.8%	-0.0007	97.6%	-0.0014	0.0132	0.0135	0.0103	0.0086
x		95.7%	-0.0024	98.8%	0.0003	0.0083	0.0059	0.0094	0.0103
σ		3.5%	0.0015	1.0%	0.0019	0.0072	0.0066	0.0007	0.0031
%RSD		3.6	61.5138	1.0	564.3956	86.6980	113.4001	7.9179	29.5724
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:07:18	0.0100	0.0284	0.0168	99.8%	-0.0005	0.0438	0.0541	0.0083
2	08:07:55	0.0199	0.0465	0.0282	100.3%	-0.0216	0.1394	0.1098	0.0164
3	08:08:33	0.0236	0.0003	0.0257	100.1%	-0.0005	0.0644	0.1524	-0.0070
x		0.0178	0.0251	0.0235	100.1%	-0.0075	0.0825	0.1054	0.0059
σ		0.0070	0.0233	0.0060	0.3%	0.0122	0.0503	0.0493	0.0119
%RSD		39.3247	92.9383	25.4878	0.3	161.7998	60.9544	46.7434	201.8166
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:07:18	101.2%	102.9%	0.0008	0.0015	102.9%	0.0039	0.0025	0.0042
2	08:07:55	101.9%	103.4%	0.0020	0.0001	104.8%	0.0041	0.0064	0.0066
3	08:08:33	101.5%	103.0%	0.0019	0.0049	104.5%	0.0109	0.0071	0.0086
x		101.6%	103.1%	0.0016	0.0022	104.1%	0.0063	0.0053	0.0065
σ		0.4%	0.3%	0.0007	0.0025	1.0%	0.0040	0.0025	0.0022
%RSD		0.4	0.3	44.9458	113.7695	1.0	63.2034	46.7040	34.2699

K1606753-005 7/29/2016 8:10:52 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:10:52	93.0%	-0.0032	97.6%	0.0693	0.0561	0.0833	0.1600	0.1783
2	08:11:29	91.3%	-0.0026	95.0%	0.0635	0.0618	0.0860	0.1679	0.1831
3	08:12:07	87.1%	-0.0000	94.7%	0.0679	0.0427	0.0386	0.1709	0.1912
X		90.5%	-0.0019	95.8%	0.0669	0.0536	0.0693	0.1663	0.1842
σ		3.0%	0.0017	1.6%	0.0030	0.0098	0.0266	0.0057	0.0066
%RSD		3.3	87.9870	1.6	4.5122	18.3076	38.3594	3.4059	3.5560
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:10:52	0.2916	0.4393	0.3251	97.4%	-0.1156	2.5221	-0.3253	-0.1281
2	08:11:29	0.2870	0.4768	0.3142	97.1%	-0.0814	2.2046	-0.1175	-0.2163
3	08:12:07	0.3077	0.4253	0.2805	97.9%	-0.0342	2.3585	-0.2180	-0.0407
X		0.2955	0.4471	0.3066	97.5%	-0.0771	2.3618	-0.2203	-0.1284
σ		0.0109	0.0266	0.0233	0.4%	0.0409	0.1588	0.1039	0.0878
%RSD		3.6831	5.9596	7.5876	0.4	53.0366	6.7222	47.1892	68.3944
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:10:52	98.5%	99.7%	-0.0024	0.0019	102.4%	0.0160	0.0228	0.0191
2	08:11:29	98.2%	99.4%	0.0008	0.0044	102.9%	0.0184	0.0180	0.0195
3	08:12:07	97.7%	99.4%	0.0004	0.0046	103.4%	0.0194	0.0162	0.0193
X		98.1%	99.5%	-0.0004	0.0036	102.9%	0.0179	0.0190	0.0193
σ		0.4%	0.1%	0.0017	0.0015	0.5%	0.0018	0.0034	0.0002
%RSD		0.4	0.1	450.1966	41.5003	0.5	9.7568	17.8769	1.0456

K1606753-006 DISS 7/29/2016 8:14:24 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:14:24	92.0%	0.0139	95.4%	75.7780	0.7697	0.4548	1.0634	0.8731
2	08:15:02	86.1%	0.0124	93.2%	75.7789	0.8221	0.4751	1.0565	0.9072
3	08:15:40	88.8%	0.0059	91.4%	76.9686	0.7868	0.5316	1.0657	0.8866
X		88.9%	0.0108	93.3%	76.1752	0.7929	0.4871	1.0618	0.8889
σ		3.0%	0.0042	2.0%	0.6871	0.0268	0.0398	0.0048	0.0172
%RSD		3.3	39.3475	2.1	0.9020	3.3742	8.1700	0.4492	1.9319
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:14:24	5.0966	5.9491	5.8297	91.2%	1.4480	3.0437	0.1304	0.8099
2	08:15:02	4.9663	6.2646	5.7886	91.6%	1.3278	3.1624	0.1162	0.6131
3	08:15:40	5.0653	5.8443	5.7253	90.9%	1.2564	3.2954	0.1911	0.6420
X		5.0427	6.0193	5.7812	91.2%	1.3441	3.1671	0.1459	0.6883
σ		0.0680	0.2187	0.0526	0.4%	0.0968	0.1259	0.0398	0.1063
%RSD		1.3493	3.6340	0.9094	0.4	7.2048	3.9751	27.2635	15.4412
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:14:24	92.0%	95.1%	0.3535	0.3392	99.9%	0.1875	0.1891	0.1884
2	08:15:02	91.8%	95.0%	0.3770	0.3555	101.6%	0.1989	0.1817	0.1929
3	08:15:40	91.6%	94.9%	0.3684	0.3550	101.9%	0.2071	0.1936	0.1980
X		91.8%	95.0%	0.3663	0.3499	101.1%	0.1978	0.1881	0.1931
σ		0.2%	0.1%	0.0119	0.0093	1.1%	0.0098	0.0060	0.0048
%RSD		0.2	0.1	3.2580	2.6504	1.1	4.9620	3.1931	2.4690

K1606753-006 7/29/2016 8:18:08 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:18:08	90.9%	0.2491	95.1%	109.2090	1.4596	1.1775	4.0619	4.0025
2	08:18:46	86.9%	0.2402	91.8%	111.1269	1.4366	1.1669	4.0787	3.9607
3	08:19:23	83.0%	0.2598	93.0%	108.4451	1.3923	1.1702	4.0167	3.9183
X		87.0%	0.2497	93.3%	109.5937	1.4295	1.1715	4.0524	3.9605
σ		4.0%	0.0098	1.7%	1.3817	0.0342	0.0055	0.0320	0.0421
%RSD		4.6	3.9154	1.8	1.2607	2.3926	0.4665	0.7907	1.0632
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:18:08	23.0889	23.7090	23.3782	91.8%	2.4204	3.8644	0.2715	0.8334
2	08:18:46	23.0004	24.1176	23.2109	92.2%	2.5468	3.3429	0.3874	0.9633
3	08:19:23	22.8040	23.6924	23.1158	92.1%	2.5934	3.3115	0.4255	0.7790
X		22.9644	23.8397	23.2350	92.0%	2.5202	3.5063	0.3614	0.8586
σ		0.1458	0.2408	0.1329	0.2%	0.0895	0.3106	0.0802	0.0947
%RSD		0.6348	1.0103	0.5718	0.2	3.5518	8.8573	22.1905	11.0248
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:18:08	91.3%	95.6%	0.0859	0.0827	101.9%	6.9112	6.6742	6.8051
2	08:18:46	92.4%	96.4%	0.0908	0.0836	103.5%	6.9594	6.6984	6.7989
3	08:19:23	92.2%	96.3%	0.0902	0.0902	103.8%	6.9274	6.6114	6.7811
X		92.0%	96.1%	0.0890	0.0855	103.0%	6.9327	6.6613	6.7950
σ		0.6%	0.5%	0.0027	0.0041	1.0%	0.0245	0.0449	0.0124
%RSD		0.6	0.5	2.9933	4.7692	1.0	0.3537	0.6744	0.1829

KQ1608586-01 7/29/2016 8:21:51 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:21:51	93.9%	-0.0037	97.3%	0.0055	0.0025	0.0396	0.0005	-0.0049
2	08:22:28	87.9%	-0.0059	92.9%	0.0167	-0.0030	-0.0043	0.0002	0.0037
3	08:23:06	90.7%	-0.0069	92.3%	0.0187	-0.0010	-0.0362	0.0055	-0.0025
X		90.8%	-0.0055	94.2%	0.0136	-0.0005	-0.0003	0.0021	-0.0012
σ		3.0%	0.0016	2.8%	0.0071	0.0028	0.0381	0.0030	0.0044
%RSD		3.3	29.7959	2.9	52.3214	534.9570	12556.1040	145.8250	358.5654
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:21:51	0.0325	0.0175	0.0403	96.8%	0.0818	0.0547	0.0008	0.2053
2	08:22:28	0.0338	0.0329	0.0297	96.8%	0.0204	0.0218	-0.1268	-0.0249
3	08:23:06	0.0286	0.0381	0.0342	96.7%	0.0709	-0.0451	-0.3680	0.0707
X		0.0316	0.0295	0.0347	96.8%	0.0577	0.0105	-0.1647	0.0837
σ		0.0027	0.0107	0.0053	0.1%	0.0328	0.0508	0.1873	0.1157
%RSD		8.4088	36.2801	15.3393	0.1	56.8052	485.2120	113.7484	138.1961
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:21:51	100.4%	101.0%	-0.0137	-0.0116	104.4%	0.0038	0.0009	0.0035
2	08:22:28	99.3%	102.0%	-0.0111	-0.0074	106.1%	0.0038	0.0033	0.0036
3	08:23:06	98.7%	102.3%	-0.0101	-0.0095	105.7%	0.0070	0.0042	0.0045
X		99.4%	101.8%	-0.0116	-0.0095	105.4%	0.0049	0.0028	0.0039
σ		0.9%	0.6%	0.0019	0.0021	0.9%	0.0019	0.0017	0.0005
%RSD		0.9	0.6	16.0375	21.8524	0.8	38.1097	61.6146	13.5711

K1608303-001 7/29/2016 8:40:08 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:40:08	96.3%	-0.0062	96.9%	3.0449	0.4120	0.2507	0.9092	0.9150
2	08:40:46	91.6%	-0.0058	95.9%	3.0603	0.4394	0.2542	0.8670	0.9008
3	08:41:23	90.7%	-0.0054	96.3%	3.0278	0.4263	0.2518	0.8714	0.8518
X		92.9%	-0.0058	96.4%	3.0443	0.4259	0.2522	0.8825	0.8892
σ		3.0%	0.0004	0.5%	0.0162	0.0137	0.0018	0.0232	0.0332
%RSD		3.3	7.6121	0.5	0.5335	3.2160	0.7080	2.6310	3.7291
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:40:08	5.5912	5.4836	5.3893	95.0%	1.2589	0.2258	-0.1238	0.4050
2	08:40:46	5.5905	5.7159	5.3611	94.9%	1.2605	0.2489	0.0506	0.4700
3	08:41:23	5.7096	4.9024	5.3808	95.7%	1.2209	0.1650	-0.2820	0.3463
X		5.6304	5.3673	5.3770	95.2%	1.2468	0.2132	-0.1184	0.4071
σ		0.0686	0.4191	0.0145	0.4%	0.0224	0.0434	0.1664	0.0619
%RSD		1.2176	7.8079	0.2688	0.4	1.7973	20.3298	140.5567	15.2010
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:40:08	95.9%	98.8%	0.5310	0.5273	101.5%	0.1646	0.1787	0.1698
2	08:40:46	96.1%	99.3%	0.5408	0.5358	102.8%	0.1576	0.1537	0.1602
3	08:41:23	96.1%	99.4%	0.5415	0.5379	103.7%	0.1592	0.1604	0.1629
X		96.0%	99.2%	0.5377	0.5337	102.7%	0.1605	0.1642	0.1643
σ		0.1%	0.3%	0.0059	0.0056	1.1%	0.0036	0.0129	0.0049
%RSD		0.1	0.3	1.0943	1.0538	1.1	2.2746	7.8615	3.0093

K1608303-001D 7/29/2016 8:43:30 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:43:30	94.0%	-0.0037	95.5%	3.2574	0.3930	0.2713	0.9096	0.9139
2	08:44:08	91.4%	-0.0078	94.8%	3.2617	0.4551	0.2682	0.9037	0.8714
3	08:44:46	86.2%	-0.0066	95.2%	3.2536	0.4043	0.2901	0.9131	0.9201
X		90.6%	-0.0060	95.2%	3.2576	0.4175	0.2765	0.9088	0.9018
σ		4.0%	0.0021	0.3%	0.0040	0.0331	0.0119	0.0048	0.0265
%RSD		4.4	34.7948	0.4	0.1241	7.9213	4.2910	0.5229	2.9391
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:43:30	5.0875	4.4993	4.9169	95.5%	1.2648	0.3497	0.1213	0.3798
2	08:44:08	5.0743	5.0370	4.8636	95.6%	1.1461	0.4171	-0.0307	0.0221
3	08:44:46	5.2013	4.5347	5.0024	94.1%	1.2573	0.3928	-0.2703	0.3909
X		5.1210	4.6903	4.9276	95.1%	1.2227	0.3866	-0.0599	0.2642
σ		0.0698	0.3008	0.0700	0.8%	0.0665	0.0341	0.1974	0.2098
%RSD		1.3638	6.4122	1.4207	0.9	5.4379	8.8295	329.5871	79.4027
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:43:30	95.4%	97.8%	0.5495	0.5589	103.3%	0.1737	0.1703	0.1687
2	08:44:08	96.2%	99.8%	0.5379	0.5185	104.5%	0.1690	0.1755	0.1682
3	08:44:46	95.7%	98.6%	0.5553	0.5570	105.4%	0.1634	0.1651	0.1663
X		95.8%	98.8%	0.5476	0.5448	104.4%	0.1687	0.1703	0.1677
σ		0.4%	1.0%	0.0088	0.0228	1.1%	0.0051	0.0052	0.0013
%RSD		0.4	1.0	1.6139	4.1807	1.0	3.0394	3.0413	0.7711

K1608303-001S 7/29/2016 8:47:06 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:47:06	91.1%	2.4712	95.7%	25.7237	23.7385	23.5815	12.6934	13.0787
2	08:47:44	87.2%	2.4202	93.9%	26.4877	24.1227	23.8345	12.5648	12.9664
3	08:48:21	87.6%	2.4041	92.9%	26.4433	23.7187	23.8315	12.5519	12.4905
X		88.6%	2.4318	94.2%	26.2182	23.8600	23.7492	12.6034	12.8452
σ		2.2%	0.0350	1.4%	0.4289	0.2278	0.1452	0.0782	0.3122
%RSD		2.4	1.4403	1.5	1.6357	0.9545	0.6114	0.6206	2.4308
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:47:06	28.0393	32.0686	30.5141	96.4%	51.1729	50.9801	50.3891	48.6479
2	08:47:44	28.5936	31.1112	30.3557	95.3%	51.1966	50.7236	50.4890	50.7349
3	08:48:21	28.3414	31.8776	30.5217	95.2%	51.1733	51.6558	49.6267	50.9358
X		28.3248	31.6858	30.4638	95.6%	51.1809	51.1199	50.1683	50.1062
σ		0.2776	0.5067	0.0938	0.7%	0.0135	0.4815	0.4716	1.2669
%RSD		0.9799	1.5992	0.3077	0.7	0.0265	0.9420	0.9401	2.5284
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:47:06	96.0%	99.1%	51.1258	51.1308	103.4%	48.6871	50.4204	49.6848
2	08:47:44	96.0%	99.7%	51.3157	51.1210	105.3%	48.4397	50.5914	49.6495
3	08:48:21	95.6%	99.4%	51.5824	51.0227	105.3%	48.7297	50.3061	49.4545
X		95.9%	99.4%	51.3413	51.0915	104.7%	48.6188	50.4393	49.5963
σ		0.3%	0.3%	0.2294	0.0598	1.1%	0.1566	0.1436	0.1240
%RSD		0.3	0.3	0.4468	0.1170	1.0	0.3221	0.2847	0.2501

KQ1608586-02 7/29/2016 8:50:54 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:50:54	91.4%	2.5096	97.4%	22.7935	23.5787	23.5688	11.7610	11.8316
2	08:51:31	91.7%	2.4258	95.8%	23.2407	24.1082	23.6929	11.9663	12.2638
3	08:52:09	89.8%	2.4531	96.0%	23.2320	23.4942	23.5052	11.7664	11.7800
X		91.0%	2.4628	96.4%	23.0887	23.7270	23.5890	11.8312	11.9585
σ		1.0%	0.0428	0.9%	0.2557	0.3328	0.0955	0.1170	0.2657
%RSD		1.1	1.7363	0.9	1.1075	1.4026	0.4046	0.9889	2.2215
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:50:54	23.8536	27.5157	26.1983	97.5%	47.9767	50.7595	50.0822	48.0488
2	08:51:31	24.4098	28.3392	26.4104	96.2%	49.3155	49.6732	49.0827	49.5904
3	08:52:09	24.4112	27.6024	26.4735	96.5%	49.0448	49.9647	50.0414	48.8626
X		24.2249	27.8191	26.3607	96.7%	48.7790	50.1325	49.7354	48.8339
σ		0.3216	0.4525	0.1442	0.7%	0.7078	0.5622	0.5657	0.7712
%RSD		1.3274	1.6265	0.5470	0.7	1.4511	1.1215	1.1373	1.5793
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:50:54	98.3%	99.2%	49.6128	48.7887	103.0%	48.5920	50.4848	49.6349
2	08:51:31	97.8%	100.1%	49.4255	49.4186	103.8%	48.7705	50.6498	49.7615
3	08:52:09	97.9%	100.4%	49.3643	48.9707	104.0%	48.7161	50.3028	49.5668
X		98.0%	99.9%	49.4675	49.0594	103.6%	48.6929	50.4791	49.6544
σ		0.3%	0.6%	0.1295	0.3242	0.5%	0.0915	0.1736	0.0988
%RSD		0.3	0.6	0.2617	0.6607	0.5	0.1879	0.3439	0.1990

CCV3 7/29/2016 8:54:20 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:54:20	96.2%	24.2976	98.0%	24.0670	24.3700	24.2321	24.4592	24.6515
2	08:54:58	90.2%	24.1715	95.1%	24.4512	24.7360	24.5658	24.1893	24.5526
3	08:55:36	91.2%	24.2972	93.4%	24.1869	24.4197	24.4915	24.7748	24.7636
X		92.5%	24.2554	95.5%	24.2350	24.5086	24.4298	24.4744	24.6559
σ		3.2%	0.0727	2.3%	0.1966	0.1985	0.1752	0.2931	0.1056
%RSD		3.5	0.2997	2.4	0.8113	0.8100	0.7171	1.1974	0.4282
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:54:20	25.0857	25.1505	24.7434	96.2%	25.5052	25.1633	25.2239	25.4355
2	08:54:58	25.0837	25.7370	24.9682	96.0%	25.1748	25.9101	25.4434	24.9020
3	08:55:36	25.5360	25.0505	25.0969	96.4%	25.1811	24.7386	25.3312	25.9677
X		25.2352	25.3126	24.9362	96.2%	25.2870	25.2707	25.3328	25.4351
σ		0.2606	0.3709	0.1789	0.2%	0.1889	0.5931	0.1097	0.5328
%RSD		1.0325	1.4651	0.7175	0.2	0.7472	2.3470	0.4332	2.0949
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:54:20	97.4%	99.4%	24.7895	24.6531	100.7%	25.1547	25.0163	25.1437
2	08:54:58	97.4%	99.5%	24.9869	24.8406	102.1%	25.2332	25.1790	25.2769
3	08:55:36	96.5%	99.1%	25.3536	25.2094	102.5%	25.2329	25.2016	25.2865
X		97.1%	99.3%	25.0433	24.9010	101.8%	25.2070	25.1323	25.2357
σ		0.5%	0.2%	0.2863	0.2830	0.9%	0.0452	0.1011	0.0798
%RSD		0.5	0.2	1.1431	1.1365	0.9	0.1794	0.4021	0.3163

CCB3 7/29/2016 9:03:57 AM

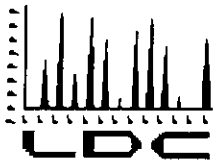
User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:03:57	95.9%	-0.0058	99.2%	-0.0037	0.0046	0.0571	0.0135	0.0047
2	09:04:35	97.9%	0.0003	101.8%	-0.0031	0.0018	0.0565	0.0053	0.0026
3	09:05:12	98.5%	0.0029	97.9%	0.0048	0.0036	0.0394	-0.0001	0.0068
X		97.4%	-0.0009	99.6%	-0.0007	0.0033	0.0510	0.0062	0.0047
σ		1.4%	0.0045	2.0%	0.0047	0.0014	0.0100	0.0068	0.0021
%RSD		1.4	500.1165	2.0	702.2585	43.0446	19.6940	110.1555	44.4429
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:03:57	0.0227	0.0575	0.0074	99.1%	-0.0397	0.1466	0.1670	-0.0234
2	09:04:35	0.0223	0.0242	0.0002	98.9%	0.0116	0.0368	-0.2089	0.0549
3	09:05:12	0.0265	0.0433	0.0155	99.4%	-0.0042	-0.0643	0.1081	-0.1164
X		0.0238	0.0417	0.0077	99.1%	-0.0108	0.0397	0.0221	-0.0283
σ		0.0023	0.0167	0.0076	0.2%	0.0263	0.1055	0.2021	0.0857
%RSD		9.7754	40.0785	98.7368	0.2	244.0065	265.8391	916.6901	303.0231
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:03:57	99.7%	101.1%	0.0058	0.0103	101.0%	0.0038	0.0046	0.0041
2	09:04:35	99.9%	103.4%	0.0119	0.0135	103.8%	0.0089	0.0072	0.0080
3	09:05:12	100.8%	101.7%	0.0167	0.0122	103.8%	0.0082	0.0085	0.0093
X		100.2%	102.1%	0.0114	0.0120	102.9%	0.0070	0.0068	0.0071
σ		0.6%	1.2%	0.0055	0.0016	1.6%	0.0027	0.0020	0.0027
%RSD		0.6	1.2	48.0342	13.5669	1.6	39.2717	29.0363	37.8586

LLCCVW 7/29/2016 9:09:21 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	60Ni	62Ni	63Cu	65Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:09:21	101.2%	0.0186	102.0%	0.0386	0.2187	0.2144	0.0891	0.1014
2	09:09:58	103.0%	0.0167	101.4%	0.0396	0.1899	0.2111	0.1025	0.0887
3	09:10:36	100.0%	0.0175	100.3%	0.0450	0.1919	0.2118	0.0994	0.1090
X		101.4%	0.0176	101.3%	0.0411	0.2002	0.2124	0.0970	0.0997
σ		1.5%	0.0010	0.9%	0.0034	0.0161	0.0017	0.0070	0.0102
%RSD		1.5	5.5277	0.8	8.3969	8.0329	0.8095	7.2206	10.2687
Run	Time	66Zn	67Zn	68Zn	71Ga	75As	77Se	78Se	82Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:09:21	0.4519	0.4502	0.4852	100.4%	0.5636	0.9896	0.6643	1.0194
2	09:09:58	0.5350	0.5619	0.4613	100.5%	0.5150	1.0316	0.6013	1.1028
3	09:10:36	0.5462	0.5295	0.4864	98.9%	0.5031	1.0171	0.8934	0.9817
X		0.5110	0.5139	0.4776	99.9%	0.5272	1.0127	0.7197	1.0346
σ		0.0515	0.0575	0.0142	0.9%	0.0321	0.0213	0.1537	0.0620
%RSD		10.0870	11.1858	2.9696	0.9	6.0804	2.1049	21.3615	5.9913
Run	Time	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:09:21	101.1%	100.7%	0.0550	0.0525	100.9%	0.0249	0.0220	0.0245
2	09:09:58	101.4%	102.5%	0.0568	0.0544	103.4%	0.0213	0.0201	0.0227
3	09:10:36	101.3%	102.2%	0.0576	0.0522	102.6%	0.0234	0.0260	0.0255
X		101.2%	101.8%	0.0565	0.0530	102.3%	0.0232	0.0227	0.0242
σ		0.2%	0.9%	0.0013	0.0012	1.2%	0.0018	0.0030	0.0014
%RSD		0.2	0.9	2.3301	2.2230	1.2	7.6522	13.2047	5.9039



LABORATORY DATA CONSULTANTS, INC.

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ARCADIS U.S., Inc.
401 E. Main Street, Suite 400
El Paso, TX 79901

August 24, 2016

(b) (6)

SUBJECT: Fort Bliss, Castner Range, Data Validation

(b) (6)

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on August 5th & 8th, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #36840:

SDG

Fraction:

K1606091, K1606204	Metals, Explosives
K1606502, K1606364	
K1606639	

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Quality Assurance Project Plan, Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas, February 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, 5.0, July 2013
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Data Review, October 1999
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

(b) (6)

L:\Arcadis\Fort Bliss-Castner Range\36840ST.wpd

**Data Validation Report
Fort Bliss, Castner Range**

**SDGs: K1606091, K1606204, K1606502, K1606364,
and K1606639**

Prepared for

Arcadis U.S., Inc.
401 E. Main Street, Suite 400
El Paso, TX 79901

Prepared by

Laboratory Data Consultants, Inc.
2701 Loker Ave West, Suite 220
Carlsbad, CA 92010

August 24, 2016

INTRODUCTION

This Data Validation Report (DVR) presents Level III and IV data validation results for samples collected during the June 2016 sampling period. Data validation was performed in accordance with the Final Quality Assurance Project Plan (QAPP), Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas (February 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Organic Superfund Data Review (October 1999) and the USEPA CLPNFG Inorganic Superfund Data Review (October 2004). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Explosives by Environmental Protection Agency (EPA) SW 846 Method 8330B
Metals by EPA SW 846 Method 6020A

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment 2. Level III Automated Data Review outliers are presented in Enclosure I. DVRs for samples on which Level IV validation was performed are presented in Enclosure II.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, initial and continuing calibrations, laboratory blanks, initial and continuing calibration blanks (ICB/CCBs), surrogates, interference check (ICSA and ICSAB) samples, matrix spike/matrix spike duplicates (MS/MSD), serial dilution, laboratory control sample (LCS), sample reference materials (SRM), and equipment blanks. Approximately 30 percent of samples were subjected to Level IV evaluation as indicated in Attachment 1, which comprised a review of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the calibrations, interference check samples, ICB/CCBs and serial dilution, which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP, DoD QSM and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detect at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NJ (Presumptive). Presumptive evidence of presence of the compound at an estimated quantity.
- NA (Not applicable): Data did not warrant qualification since detected results only are affected and the compound was not detected in the associated samples.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt & Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

All criteria for the initial calibration and initial calibration verifications of the methods were met.

III. Continuing Calibration

All criteria for the continuing calibration verifications of the methods were met with the following exceptions:

SDG/ Method	Date	Column	Compound	%D (limits)	Associated Samples	Flag	A or P
K1606502/ 8330B	06/29/16	SynergiHydroR	Tetryl	33 (≤20)	EB061316	UJ (all non-detects)	A

IV. Laboratory Blanks

Laboratory blanks were performed as required by the method. No contaminant concentrations were detected in the laboratory blanks reviewed by ADR with the exception of several metals and explosive. The associated sample results were qualified as non-detected (U) due to laboratory blank contamination as applicable. The sample results that were not detected or were significantly greater than the concentrations found in the associated blanks were not qualified. The details regarding the qualification of data are provided in Enclosure I.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the following exceptions:

SDG/ Method	Laboratory Blank ID	Analyte	Maximum Concentration	Associated Samples
K1606091/ 6020A	ICB/CCB	Antimony Lead Nickel	0.007 ug/L 0.005 ug/L 0.06 ug/L	EB060616
K1606204/ 6020A	ICB/CCB	Antimony Lead Nickel	0.007 ug/L 0.005 ug/L 0.06 ug/L	EB060716
K1606502/ 6020A	ICB/CCB	Antimony Lead Nickel	0.007 ug/L 0.005 ug/L 0.06 ug/L	EB061316

SDG/ Method	Laboratory Blank ID	Analyte	Maximum Concentration	Associated Samples
K1606502/ 6020A	ICB/CCB	Beryllium	0.011 ug/L	FTBL-IS-110-061316 FTBL-IS-105-061316 FTBL-IS-106-061316
K1606364/ 6020A	ICB/CCB	Beryllium	0.020 ug/L	FTBL-IS-077-060916-A FTBL-IS-077-060916-B FTBL-IS-077-060916-C FTBL-IS-074-060916-A
K1606364/ 6020A	ICB/CCB	Beryllium	0.011 ug/L	FTBL-IS-074-060916-B FTBL-IS-074-060916-C FTBL-IS-073-060916 FTBL-IS-075-060916 FTBL-IS-071-060916 FTBL-IS-076-060916
K1606364/ 6020A	ICB/CCB	Antimony Lead Nickel	0.007 ug/L 0.005 ug/L 0.06 ug/L	EB060916
K1606639/ 6020A	ICB/CCB	Antimony Lead	0.015 ug/L 0.007 ug/L	FTBL-SP-03-061516 FTBL-SP-03-061516F

Sample concentrations were compared to concentrations detected in the initial or continuing calibration blanks. The sample concentrations were not detected or were significantly greater than the concentrations found in the associated blanks with the following exceptions:

SDG/Method	Sample	Compound	Reported Concentration	Modified Final Concentration
K1606091/ 6020A	EB060616	Lead Nickel	0.006 ug/L 0.09 ug/L	0.010U ug/L 0.05U ug/L
K1606204/ 6020A	EB060716	Antimony Lead Nickel	0.012 ug/L 0.011 ug/L 0.05 ug/L	0.012U ug/L 0.011U ug/L 0.05U ug/L
K1606502/ 6020A	EB061316	Lead Nickel	0.009 ug/L 0.07 ug/L	0.010U ug/L 0.07U ug/L

V. Field Blanks

Four equipment blanks were collected and analyzed for metals and explosives. All equipment blanks had detections for several metals. The associated sample results were not detected or were significantly greater than the concentrations found in the equipment blanks, therefore no data were qualified.

VI. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met. The criteria for analysis were met.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed on an associated project sample. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the exception of several explosives and metals in four MS/MSD pairs. No data were qualified for metals %R when the post-digestion spike %R or serial dilution %D were within QC limits. The remainder of the associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details are provided in Enclosure I.

IX. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore laboratory duplicate analyses were not performed for this SDG.

X. Serial Dilution

Serial dilution analysis was performed on an associated project sample. The percent differences (%D) were within QC limits.

XI. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

Standard reference materials (SRM) were analyzed for explosives. Percent recoveries (%R) were within QC limits with the exception of several explosives. Several explosives results in several samples were qualified as rejected (R) due to SRM %Rs grossly outside QC limits (i.e., $\leq 10\%$). The remainder of the associated sample results were qualified as detected estimated (J) or non-detected estimated (UJ) as applicable. The details regarding the qualification of data are provided in Enclosure I.

XII. Field Triplicates

Three sets of field triplicates were collected and analyzed for explosives and metals. All RSDs were within QC limits with the exception of antimony and lead in two triplicates. The associated sample results were qualified as detected estimated (J). No samples were qualified when one or more results were less than 5x the limit of quantitation (LOQ). The field triplicate comparisons are provided in Enclosures I and II.

XIII. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

All compounds reported below the LOQ as detected by the laboratory were qualified as detected estimated (J). The details regarding the qualification of data are provided in Enclosure

I.

All compound quantitations were within validation criteria with the following exceptions:

SDG/ Method	Sample	Compound	Finding	Criteria	Flag	A or P
K1606091/ 8330B	FTBL-IS-003-060616-B	HMX 1,3-Dinitrobenzene 3-Nitrotoluene	2 nd column confirmation was not performed for this compound.	2 nd column confirmation should be performed for all detected results	NJ (all detects)	A
K1606091/ 8330B	FTBL-IS-014-060616	4-Amino-2,6-dinitrotoluene	2 nd column confirmation was not performed for this compound.	2 nd column confirmation should be performed for all detected results	NJ (all detects)	A
K1606091/ 8330B	FTBL-IS-018-060616	1,3,5-Trinitrotoluene Nitrobenzene	2 nd column confirmation was not performed for this compound.	2 nd column confirmation should be performed for all detected results	NJ (all detects)	A
K1606204/ 8330B	FTBL-IS-027-060716	Nitroglycerin	2 nd column confirmation was not performed for this compound.	2 nd column confirmation should be performed for all detected results	NJ (all detects)	A
K1606204/ 8330B	FTBL-IS-015-060716 FTBL-IS-019-060716	2,6-Dinitrotoluene	2 nd column confirmation was not performed for this compound.	2 nd column confirmation should be performed for all detected results	NJ (all detects)	A
K1606204/ 8330B	FTBL-IS-016-060716 FTBL-IS-021-060716	2,6-Dinitrotoluene Nitroglycerin	2 nd column confirmation was not performed for this compound.	2 nd column confirmation should be performed for all detected results	NJ (all detects)	A
K1606364/ 8330B	EB060916	HMX	2 nd column confirmation was not performed for this compound.	2 nd column confirmation should be performed for all detected results	NJ (all detects)	A
K1606364/ 8330B	FTBL-IS-077-060916-B	2-Nitrotoluene	2 nd column confirmation was not performed for this compound.	2 nd column confirmation should be performed for all detected results	NJ (all detects)	A
K1606364/ 8330B	FTBL-IS-074-060916-A	2,6-Dinitrotoluene	2 nd column confirmation was not performed for this compound.	2 nd column confirmation should be performed for all detected results	NJ (all detects)	A

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

SDG/ Method	Sample	Compound	RPD	Flag	A or P
K1606364/ 8330B	FTBL-IS-074-060916-A	Nitrobenzene 2-Amino-4,6-dinitrotoluene 2-Nitrotoluene	63.7 125.0 54.5	J (all detects)	A

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods.

Due to severe SRM %R exceedances, data were qualified as rejected in twenty eight samples.

Due to SRM %R exceedances, data were qualified as estimated in twenty eight samples.

Due to MS/MSD and LCS/LCSD %R, data were qualified as estimated in four samples.

Due to results not being confirmed, data were qualified as presumptive in eleven samples.

Due to CCV %D and RPD between columns, data were qualified as estimated in five samples.

Due to field triplicate RSD, data were qualified as estimated in six samples.

Due to results reported below the LOQ, data were qualified as estimated in nine samples.

Due to laboratory blank contamination, data were qualified as non-detect in three samples.

The quality control criteria reviewed, as discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation, all other results are considered valid and usable for all purposes.

Data flags are summarized and are presented as Attachment 2.

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
06-Jun-2016	EB060616	K1606091-008	EB	CLFAA	6020A	III
06-Jun-2016	EB060616	K1606091-008	EB	METHOD	8330B	III
06-Jun-2016	FTBL-IS-003-060616-A	K1606091-001	FT	EPA 3050B	6020A	III
06-Jun-2016	FTBL-IS-003-060616-A	K1606091-001	FT	METHOD	8330B	III
06-Jun-2016	FTBL-IS-003-060616-AMS	K1606091-001MS	MS	EPA 3050B	6020A	III
06-Jun-2016	FTBL-IS-003-060616-AMSD	K1606091-001SD	MSD	EPA 3050B	6020A	III
06-Jun-2016	FTBL-IS-003-060616-AREP1	KWG1604937-1	REP	METHOD	8330B	III
06-Jun-2016	FTBL-IS-003-060616-AREP3	KWG1604937-2	REP	METHOD	8330B	III
06-Jun-2016	FTBL-IS-003-060616-AMS	KWG1604937-3	MS	METHOD	8330B	III
06-Jun-2016	FTBL-IS-003-060616-AMSD	KWG1604937-4	MSD	METHOD	8330B	III
06-Jun-2016	FTBL-IS-003-060616-B	K1606091-002	N	EPA 3050B	6020A	III
06-Jun-2016	FTBL-IS-003-060616-B	K1606091-002	N	METHOD	8330B	III
06-Jun-2016	FTBL-IS-003-060616-C	K1606091-003	N	EPA 3050B	6020A	III
06-Jun-2016	FTBL-IS-003-060616-C	K1606091-003	N	METHOD	8330B	III
06-Jun-2016	FTBL-IS-013-060616	K1606091-004	N	EPA 3050B	6020A	III
06-Jun-2016	FTBL-IS-013-060616	K1606091-004	N	METHOD	8330B	III
06-Jun-2016	FTBL-IS-018-060616	K1606091-007	N	EPA 3050B	6020A	III
06-Jun-2016	FTBL-IS-018-060616	K1606091-007	N	METHOD	8330B	III
06-Jun-2016	FTBL-IS-017-060616	K1606091-006	N	EPA 3050B	6020A	III
06-Jun-2016	FTBL-IS-017-060616	K1606091-006	N	METHOD	8330B	III
06-Jun-2016	FTBL-IS-014-060616	K1606091-005	N	EPA 3050B	6020A	III
06-Jun-2016	FTBL-IS-014-060616	K1606091-005	N	METHOD	8330B	III
07-Jun-2016	EB060716	K1606204-009	EB	CLFAA	6020A	III
07-Jun-2016	EB060716	K1606204-009	EB	METHOD	8330B	III
07-Jun-2016	FTBL-IS-027-060716	K1606204-001	N	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-027-060716	K1606204-001	N	METHOD	8330B	III

III = Level 3 Data Review N = Normal Sample TB = Trip Blank MS = Matrix Spike DUP = Lab Duplicate
 IV = Level 4 Data Validation FD = Field Duplicate FB = Field Blank MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
07-Jun-2016	FTBL-IS-027-060716MS	K1606204-001MS	MS	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-027-060716MSD	K1606204-001SD	MSD	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-027-060716REP1	KWG1605000-1	REP	METHOD	8330B	III
07-Jun-2016	FTBL-IS-027-060716REP3	KWG1605000-2	REP	METHOD	8330B	III
07-Jun-2016	FTBL-IS-027-060716MS	KWG1605000-5	MS	METHOD	8330B	III
07-Jun-2016	FTBL-IS-027-060716MSD	KWG1605000-6	MSD	METHOD	8330B	III
07-Jun-2016	FTBL-IS-024-060716	K1606204-003	N	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-024-060716	K1606204-003	N	METHOD	8330B	III
07-Jun-2016	FTBL-IS-026-060716	K1606204-004	N	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-026-060716	K1606204-004	N	METHOD	8330B	III
07-Jun-2016	FTBL-IS-025-060716	K1606204-002	N	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-025-060716	K1606204-002	N	METHOD	8330B	III
07-Jun-2016	FTBL-IS-015-060716	K1606204-005	N	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-015-060716	K1606204-005	N	METHOD	8330B	III
07-Jun-2016	FTBL-IS-016-060716	K1606204-006	N	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-016-060716	K1606204-006	N	METHOD	8330B	III
07-Jun-2016	FTBL-IS-019-060716	K1606204-007	N	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-019-060716	K1606204-007	N	METHOD	8330B	III
07-Jun-2016	FTBL-IS-021-060716	K1606204-008	N	EPA 3050B	6020A	III
07-Jun-2016	FTBL-IS-021-060716	K1606204-008	N	METHOD	8330B	III
09-Jun-2016	EB060916	K1606364-011	EB	CLFAA	6020A	III
09-Jun-2016	EB060916	K1606364-011	EB	METHOD	8330B	III
09-Jun-2016	FTBL-IS-077-060916-A	K1606364-001	FT	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-077-060916-A	K1606364-001	FT	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-077-060916-AMS	K1606364-001MS	MS	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-077-060916-ARE	K1606364-001RE	N	EPA 3050B	6020A	IV

III = Level 3 Data Review N = Normal Sample TB = Trip Blank MS = Matrix Spike DUP = Lab Duplicate
 IV = Level 4 Data Validation FD = Field Duplicate FB = Field Blank MSD = Matrix Spike Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Jun-2016	FTBL-IS-077-060916-AMS	K1606364-001REMS	MS	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-077-060916-AMSD	K1606364-001RES	MSD	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-077-060916-AMSD	K1606364-001SD	MSD	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-077-060916-AREP1	KWG1605126-1	REP	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-077-060916-AREP3	KWG1605126-2	REP	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-077-060916-AMS	KWG1605126-5	MS	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-077-060916-AMSD	KWG1605126-6	MSD	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-074-060916-A	K1606364-004	FT	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-074-060916-A	K1606364-004	FT	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-074-060916-ARE	K1606364-004RE	FT	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-077-060916-B	K1606364-002	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-077-060916-B	K1606364-002	N	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-077-060916-BRE	K1606364-002RE	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-074-060916-B	K1606364-005	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-074-060916-B	K1606364-005	N	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-074-060916-BRE	K1606364-005RE	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-077-060916-C	K1606364-003	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-077-060916-C	K1606364-003	N	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-077-060916-CRE	K1606364-003RE	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-074-060916-C	K1606364-006	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-074-060916-C	K1606364-006	N	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-074-060916-CRE	K1606364-006RE	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-073-060916	K1606364-007	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-073-060916	K1606364-007	N	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-073-060916RE	K1606364-007RE	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-075-060916	K1606364-008	N	EPA 3050B	6020A	IV

III = Level 3 Data Review
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N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

DUP = Lab Duplicate

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
09-Jun-2016	FTBL-IS-075-060916	K1606364-008	N	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-075-060916RE	K1606364-008RE	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-071-060916	K1606364-009	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-071-060916	K1606364-009	N	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-071-060916RE	K1606364-009RE	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-076-060916	K1606364-010	N	EPA 3050B	6020A	IV
09-Jun-2016	FTBL-IS-076-060916	K1606364-010	N	METHOD	8330B	IV
09-Jun-2016	FTBL-IS-076-060916RE	K1606364-010RE	N	EPA 3050B	6020A	IV
13-Jun-2016	EB061316	K1606502-004	EB	CLFAA	6020A	III
13-Jun-2016	EB061316	K1606502-004	EB	METHOD	8330B	III
13-Jun-2016	FTBL-IS-110-061316	K1606502-001	N	EPA 3050B	6020A	III
13-Jun-2016	FTBL-IS-110-061316	K1606502-001	N	METHOD	8330B	III
13-Jun-2016	FTBL-IS-110-061316MS	K1606502-001MS	MS	EPA 3050B	6020A	III
13-Jun-2016	FTBL-IS-110-061316MSD	K1606502-001SD	MSD	EPA 3050B	6020A	III
13-Jun-2016	FTBL-IS-110-061316REP1	KWG1605229-1	REP	METHOD	8330B	III
13-Jun-2016	FTBL-IS-110-061316REP3	KWG1605229-2	REP	METHOD	8330B	III
13-Jun-2016	FTBL-IS-110-061316MS	KWG1605229-5	MS	METHOD	8330B	III
13-Jun-2016	FTBL-IS-110-061316MSD	KWG1605229-6	MSD	METHOD	8330B	III
13-Jun-2016	FTBL-IS-105-061316	K1606502-002	N	EPA 3050B	6020A	III
13-Jun-2016	FTBL-IS-105-061316	K1606502-002	N	METHOD	8330B	III
13-Jun-2016	FTBL-IS-106-061316	K1606502-003	N	EPA 3050B	6020A	III
13-Jun-2016	FTBL-IS-106-061316	K1606502-003	N	METHOD	8330B	III
15-Jun-2016	FTBL-SP-03-061516	K1606639-001	N	CLFAA	6020A	III
15-Jun-2016	FTBL-SP-03-061516	K1606639-001DISS	N	CLFAA	6020A	III
15-Jun-2016	FTBL-SP-03-061516MS	K1606639-001MS	MS	CLFAA	6020A	III
15-Jun-2016	FTBL-SP-03-061516MSD	K1606639-001SD	MSD	CLFAA	6020A	III

III = Level 3 Data Review
IV = Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

DUP = Lab Duplicate

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606091

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: METALS

Method: 6020A

Matrix: Water

6/6/2016 12:00:0

Sample ID: EB060616 **Collected:** AM **Analysis Type:** Initial/TOT **Dilution:** 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NICKEL	0.09	J	0.05	LOD	0.20	LOQ	ug/L	U	Cb
LEAD	0.006	J	0.010	LOD	0.020	LOQ	ug/L	U	Cb

Method Category: SVOA

Method: 8330B

Matrix: Soil

6/6/2016 10:00:0

Sample ID: FTBL-IS-003-060616-A **Collected:** AM **Analysis Type:** Initial1 **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.081	U	0.081	LOD	0.17	LOQ	mg/Kg	UJ	Lcs

6/6/2016 10:00:0

Sample ID: FTBL-IS-003-060616-A **Collected:** AM **Analysis Type:** Initial2 **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.17	U	0.17	LOD	0.17	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.081	U	0.081	LOD	0.17	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.17	U	0.17	LOD	0.17	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.041	U	0.041	LOD	0.17	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.41	U	0.41	LOD	0.41	LOQ	mg/Kg	UJ	Ms, Lcs
4-Amino-2,6-Dinitrotoluene	0.041	U	0.041	LOD	0.17	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.081	U	0.081	LOD	0.17	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.041	U	0.041	LOD	0.17	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.41	U	0.41	LOD	0.41	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.41	U	0.41	LOD	0.41	LOQ	mg/Kg	R	Lcs
Tetryl	0.17	U	0.17	LOD	0.17	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606091

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-003-060616-B Collected: AM 6/6/2016 10:10:0

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.015	JN	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs, Mb, ProfJdg
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
HMX	0.0089	JN	0.021	LOD	0.041	LOQ	mg/Kg	NJ	RI, ProfJdg
NITROBENZENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Tetryl	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-003-060616-B Collected: AM 6/6/2016 10:10:0

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.020	JN	0.041	LOD	0.082	LOQ	mg/Kg	NJ	RI, Lcs, ProfJdg

Sample ID: FTBL-IS-003-060616-C Collected: AM 6/6/2016 11:10:0

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
3-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-003-060616-C Collected: AM 6/6/2016 11:10:0

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606091

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-003-060616-C Collected: AM 6/6/2016 11:10:0

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Tetryl	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-013-060616

Collected: 6/6/2016 1:30:00 PM Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,6-DINITROTOLUENE	0.041	U	0.041	LOD	0.17	LOQ	mg/Kg	UJ	Lcs
3-NITROTOLUENE	0.081	U	0.081	LOD	0.17	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-013-060616

Collected: 6/6/2016 1:30:00 PM Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.17	U	0.17	LOD	0.17	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.081	U	0.081	LOD	0.17	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.17	U	0.17	LOD	0.17	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.041	U	0.041	LOD	0.17	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.41	U	0.41	LOD	0.41	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.041	U	0.041	LOD	0.17	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.081	U	0.081	LOD	0.17	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.041	U	0.041	LOD	0.17	LOQ	mg/Kg	R	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K

eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606091

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-013-060616

Collected: 6/6/2016 1:30:00 PM Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NITROGLYCERIN	0.41	U	0.41	LOD	0.41	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.41	U	0.41	LOD	0.41	LOQ	mg/Kg	R	Lcs
Tetryl	0.17	U	0.17	LOD	0.17	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-014-060616

Collected: 6/6/2016 3:20:00 PM Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-014-060616

Collected: 6/6/2016 3:20:00 PM Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.017	JN	0.021	LOD	0.081	LOQ	mg/Kg	NJ	RI, Lcs, ProfJudg
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-017-060616

Collected: 6/6/2016 3:15:00 PM Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606091

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-017-060616

Collected: 6/6/2016 3:15:00 PM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs

Sample ID: FTBL-IS-017-060616

Collected: 6/6/2016 3:15:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Tetryl	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-018-060616

Collected: 6/6/2016 3:00:00 PM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,6-DINITROTOLUENE	0.020	U	0.020	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
3-NITROTOLUENE	0.040	U	0.040	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
NITROGLYCERIN	0.20	U	0.20	LOD	0.20	LOQ	mg/Kg	R	Lcs

Sample ID: FTBL-IS-018-060616

Collected: 6/6/2016 3:00:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.027	JN	0.080	LOD	0.080	LOQ	mg/Kg	NJ	RI, Lcs, ProfJudg
1,3-DINITROBENZENE	0.040	U	0.040	LOD	0.040	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606091

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-018-060616

Collected: 6/6/2016 3:00:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4,6-TRINITROTOLUENE	0.040	U	0.040	LOD	0.080	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.080	U	0.080	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.020	U	0.020	LOD	0.040	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.020	U	0.020	LOD	0.080	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.20	U	0.20	LOD	0.20	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.020	U	0.020	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.040	U	0.040	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.0061	JN	0.020	LOD	0.080	LOQ	mg/Kg	NJ	RI, Lcs, ProfJudg
Pentaerythritol Tetranitrate (PETN)	0.20	U	0.20	LOD	0.20	LOQ	mg/Kg	R	Lcs
Tetryl	0.080	U	0.080	LOD	0.080	LOQ	mg/Kg	UJ	Lcs

Method Category: SVOA

Method: 8330B

Matrix: Water

Sample ID: EB060616

Collected: AM

Analysis Type: Initial/TOT

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3-DINITROBENZENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
2,6-DINITROTOLUENE	0.20	U	0.20	LOD	0.20	LOQ	ug/L	UJ	Lcs, Lcs
2-AMINO-4,6-DINITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
3-NITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs, Lcs
4-NITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs, Lcs
HMX	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
NITROGLYCERIN	1.0	U	1.0	LOD	1.0	LOQ	ug/L	UJ	Lcs

SDG: K1606204

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606204

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: METALS

Method: 6020A

Matrix: Water

Sample ID: EB060716 6/7/2016 12:00:00
 Collected: AM Analysis Type: Initial/TOT Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.012	J	0.012	LOD	0.050	LOQ	ug/L	U	Cb
COPPER	0.05	J	0.05	LOD	0.10	LOQ	ug/L	J	RI
NICKEL	0.05	J	0.05	LOD	0.20	LOQ	ug/L	U	Cb
ZINC	0.4	J	0.5	LOD	0.5	LOQ	ug/L	J	RI
LEAD	0.011	J	0.010	LOD	0.020	LOQ	ug/L	U	Cb

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-015-060716 Collected: 6/7/2016 2:00:00 PM Analysis Type: Initial1 Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.040	U	0.040	LOD	0.080	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-015-060716 Collected: 6/7/2016 2:00:00 PM Analysis Type: Initial2 Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.080	U	0.080	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.040	U	0.040	LOD	0.040	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.040	U	0.040	LOD	0.080	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.080	U	0.080	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.024	JN	0.020	LOD	0.040	LOQ	mg/Kg	NJ	RI, Lcs, ProfJudg
2-AMINO-4,6-DINITROTOLUENE	0.020	U	0.020	LOD	0.040	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.020	U	0.020	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
3,5-Dinitroaniline	0.20	U	0.20	LOD	0.20	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.020	U	0.020	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.040	U	0.040	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
HMX	0.020	U	0.020	LOD	0.040	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.020	U	0.020	LOD	0.080	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.20	U	0.20	LOD	0.20	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.20	U	0.20	LOD	0.20	LOQ	mg/Kg	R	Lcs

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606204

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-015-060716

Collected: 6/7/2016 2:00:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Tetryl	0.080	U	0.080	LOD	0.080	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-016-060716

Collected: 6/7/2016 2:00:00 PM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.028	JN	0.021	LOD	0.041	LOQ	mg/Kg	NJ	RI, Lcs, ProfJdg
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.065	JN	0.21	LOD	0.21	LOQ	mg/Kg	NJ	RI, Lcs, ProfJdg
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-016-060716

Collected: 6/7/2016 2:00:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-019-060716

Collected: 6/7/2016 3:15:00 PM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606204

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-019-060716

Collected: 6/7/2016 3:15:00 PM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	JN	0.021	LOD	0.041	LOQ	mg/Kg	NJ	RI, Lcs, ProfJudg
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-019-060716

Collected: 6/7/2016 3:15:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-021-060716

Collected: 6/7/2016 3:25:00 PM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.040	U	0.040	LOD	0.080	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-021-060716

Collected: 6/7/2016 3:25:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.080	U	0.080	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.040	U	0.040	LOD	0.040	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.040	U	0.040	LOD	0.080	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.080	U	0.080	LOD	0.080	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606204

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-021-060716

Collected: 6/7/2016 3:25:00 PM Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,6-DINITROTOLUENE	0.022	JN	0.020	LOD	0.040	LOQ	mg/Kg	NJ	RI, Lcs, ProfJudg
2-AMINO-4,6-DINITROTOLUENE	0.020	U	0.020	LOD	0.040	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.020	U	0.020	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
3,5-Dinitroaniline	0.20	U	0.20	LOD	0.20	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.020	U	0.020	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.040	U	0.040	LOD	0.080	LOQ	mg/Kg	UJ	Lcs
HMX	0.020	U	0.020	LOD	0.040	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.020	U	0.020	LOD	0.080	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.066	JN	0.20	LOD	0.20	LOQ	mg/Kg	NJ	RI, Lcs, ProfJudg
Pentaerythritol Tetranitrate (PETN)	0.20	U	0.20	LOD	0.20	LOQ	mg/Kg	R	Lcs
Tetryl	0.080	U	0.080	LOD	0.080	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-024-060716

Collected: AM

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-024-060716

Collected: AM

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606204

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: SVOA

Method: 8330B

Matrix: Soil

6/7/2016 10:25:0									
Sample ID: FTBL-IS-024-060716	Collected: AM			Analysis Type: Initial2				Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

6/7/2016 11:50:0									
Sample ID: FTBL-IS-025-060716	Collected: AM			Analysis Type: Initial1				Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

6/7/2016 11:50:0									
Sample ID: FTBL-IS-025-060716	Collected: AM			Analysis Type: Initial2				Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Tetryl	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606204

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-026-060716 Collected: AM 6/7/2016 11:40:0

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-026-060716 Collected: AM 6/7/2016 11:40:0

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Tetryl	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-027-060716 Collected: AM 6/7/2016 10:05:0

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Ms, Lcs

Sample ID: FTBL-IS-027-060716 Collected: AM 6/7/2016 10:05:0

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Ms, Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606204

Method Category: SVOA

Method: 8330B

Matrix: Soil

6/7/2016 10:05:0

Sample ID: FTBL-IS-027-060716 Collected: AM Analysis Type: Initial2 Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Ms, Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Ms, Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Ms, Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Ms, Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Ms, Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.10	JN	0.21	LOD	0.21	LOQ	mg/Kg	NJ	RI, Lcs, ProfJdg
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Ms
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Method Category: SVOA

Method: 8330B

Matrix: Water

6/7/2016 12:00:0

Sample ID: EB060716 Collected: AM Analysis Type: Initial/TOT Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3-DINITROBENZENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
2,6-DINITROTOLUENE	0.20	U	0.20	LOD	0.20	LOQ	ug/L	UJ	Lcs, Lcs
2-AMINO-4,6-DINITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
3-NITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs, Lcs
4-NITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs, Lcs
HMX	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
NITROGLYCERIN	1.0	U	1.0	LOD	1.0	LOQ	ug/L	UJ	Lcs

SDG: K1606364

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606364

Method Category: METALS

Method: 6020A

Matrix: Soil

Sample ID: FTBL-IS-074-060916-A

Collected: 6/9/2016 9:50:00 AM Analysis Type: Initial

Dilution: 5.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.361	J	0.025	LOD	0.050	LOQ	mg/Kg	J	Ft

Sample ID: FTBL-IS-074-060916-ARE

Collected: 6/9/2016 9:50:00 AM Analysis Type: Reanalysis-1

Dilution: 5.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
LEAD	63.6	J	0.05	LOD	0.05	LOQ	mg/Kg	J	Ft

6/9/2016 10:35:0

Sample ID: FTBL-IS-074-060916-B

Collected: AM

Analysis Type: Initial

Dilution: 5.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.470	J	0.025	LOD	0.050	LOQ	mg/Kg	J	Ft

6/9/2016 10:35:0

Sample ID: FTBL-IS-074-060916-BRE

Collected: AM

Analysis Type: Reanalysis-1

Dilution: 5.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
LEAD	89.1	J	0.05	LOD	0.05	LOQ	mg/Kg	J	Ft

6/9/2016 11:20:0

Sample ID: FTBL-IS-074-060916-C

Collected: AM

Analysis Type: Initial

Dilution: 5.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	0.920	J	0.025	LOD	0.050	LOQ	mg/Kg	J	Ft

6/9/2016 11:20:0

Sample ID: FTBL-IS-074-060916-CRE

Collected: AM

Analysis Type: Reanalysis-1

Dilution: 5.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
LEAD	146	J	0.05	LOD	0.05	LOQ	mg/Kg	J	Ft

Sample ID: FTBL-IS-077-060916-A

Collected: 6/9/2016 9:40:00 AM Analysis Type: Initial

Dilution: 5.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	40.4	J	0.025	LOD	0.050	LOQ	mg/Kg	J	Ft

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606364

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: METALS

Method: 6020A

Matrix: Soil

Sample ID: FTBL-IS-077-060916-ARE

Collected: 6/9/2016 9:40:00 AM **Analysis Type:** Reanalysis-1

Dilution: 50.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
LEAD	1070	J	0.50	LOD	0.50	LOQ	mg/Kg	J	Ft

Sample ID: FTBL-IS-077-060916-B

Collected: 6/9/2016 10:30:00 AM

Analysis Type: Initial

Dilution: 5.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	14.1	J	0.025	LOD	0.050	LOQ	mg/Kg	J	Ft

Sample ID: FTBL-IS-077-060916-BRE

Collected: 6/9/2016 10:30:00 AM

Analysis Type: Reanalysis-1

Dilution: 50.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
LEAD	552	J	0.50	LOD	0.50	LOQ	mg/Kg	J	Ft

Sample ID: FTBL-IS-077-060916-C

Collected: 6/9/2016 11:15:00 AM

Analysis Type: Initial

Dilution: 5.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
ANTIMONY	50.4	J	0.025	LOD	0.050	LOQ	mg/Kg	J	Ft

Sample ID: FTBL-IS-077-060916-CRE

Collected: 6/9/2016 11:15:00 AM

Analysis Type: Reanalysis-1

Dilution: 50.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
LEAD	1320	J	0.50	LOD	0.50	LOQ	mg/Kg	J	Ft

Method Category: METALS

Method: 6020A

Matrix: Water

Sample ID: EB060916

Collected: 6/9/2016 12:00:00 PM

Analysis Type: Initial/TOT

Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
LEAD	0.015	J	0.010	LOD	0.020	LOQ	ug/L	U	Cb
NICKEL	0.22	=	0.05	LOD	0.20	LOQ	ug/L	U	Cb
ZINC	0.3	J	0.5	LOD	0.5	LOQ	ug/L	J	RI

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606364

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-071-060916

Collected: 6/9/2016 3:35:00 PM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-071-060916

Collected: 6/9/2016 3:35:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-073-060916

Collected: 6/9/2016 2:15:00 PM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606364

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-073-060916

Collected: 6/9/2016 2:15:00 PM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-073-060916

Collected: 6/9/2016 2:15:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-074-060916-A

Collected: 6/9/2016 9:50:00 AM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-074-060916-A

Collected: 6/9/2016 9:50:00 AM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.015	J	0.041	LOD	0.041	LOQ	mg/Kg	J	RI, Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.025	JN	0.021	LOD	0.041	LOQ	mg/Kg	NJ	RI, Lcs, ProfJdg
2-AMINO-4,6-DINITROTOLUENE	0.012	JP	0.021	LOD	0.041	LOQ	mg/Kg	J	RI, Lcs, ProfJdg
2-NITROTOLUENE	0.021	JP	0.021	LOD	0.081	LOQ	mg/Kg	J	RI, Lcs, ProfJdg
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606364

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-074-060916-A

Collected: 6/9/2016 9:50:00 AM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-Amino-2,6-Dinitrotoluene	0.0080	JN	0.021	LOD	0.081	LOQ	mg/Kg	J	RI, Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.0086	J	0.021	LOD	0.041	LOQ	mg/Kg	J	RI, Lcs
NITROBENZENE	0.0093	JP	0.021	LOD	0.081	LOQ	mg/Kg	J	RI, Lcs, ProfJudg
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

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Sample ID: FTBL-IS-074-060916-B

Collected: AM

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

6/9/2016 10:35:0

Sample ID: FTBL-IS-074-060916-B

Collected: AM

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606364

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-074-060916-B **Collected:** 6/9/2016 10:35:0 AM

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-074-060916-C **Collected:** 6/9/2016 11:20:0 AM

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-074-060916-C **Collected:** 6/9/2016 11:20:0 AM

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-075-060916

Collected: 6/9/2016 2:25:00 PM

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606364

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-075-060916

Collected: 6/9/2016 2:25:00 PM Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
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Sample ID: FTBL-IS-075-060916

Collected: 6/9/2016 2:25:00 PM Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-076-060916

Collected: 6/9/2016 3:40:00 PM Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-076-060916

Collected: 6/9/2016 3:40:00 PM Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606364

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-076-060916

Collected: 6/9/2016 3:40:00 PM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-077-060916-A

Collected: 6/9/2016 9:40:00 AM **Analysis Type:** Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-077-060916-A

Collected: 6/9/2016 9:40:00 AM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Ms, Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Ms, Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Ms, Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Ms, Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Ms, Lcs
2-NITROTOLUENE	0.014	JN	0.021	LOD	0.081	LOQ	mg/Kg	NJ	RI, Ms, Lcs, ProfJudg
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Ms, Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Ms, Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606364

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-077-060916-A

Collected: 6/9/2016 9:40:00 AM **Analysis Type:** Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Ms, Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Ms, Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Ms, Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Ms, Lcs

6/9/2016 10:30:0

Sample ID: FTBL-IS-077-060916-B

Collected: AM

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

6/9/2016 10:30:0

Sample ID: FTBL-IS-077-060916-B

Collected: AM

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K

eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606364

Method Category: SVOA

Method: 8330B

Matrix: Soil

6/9/2016 10:30:0
Sample ID: FTBL-IS-077-060916-B **Collected:** AM **Analysis Type:** Initial2 **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
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6/9/2016 11:15:0
Sample ID: FTBL-IS-077-060916-C **Collected:** AM **Analysis Type:** Initial1 **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

6/9/2016 11:15:0
Sample ID: FTBL-IS-077-060916-C **Collected:** AM **Analysis Type:** Initial2 **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606364

Method Category: SVOA

Method: 8330B

Matrix: Water

6/9/2016 12:00:0

Sample ID: EB060916 **Collected:** AM **Analysis Type:** Initial/TOT **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3-DINITROBENZENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
2,6-DINITROTOLUENE	0.20	U	0.20	LOD	0.20	LOQ	ug/L	UJ	Lcs, Lcs
2-AMINO-4,6-DINITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
3-NITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs, Lcs
4-NITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs, Lcs
HMX	0.038	JN	0.10	LOD	0.10	LOQ	ug/L	NJ	RI, Lcs, ProfJudg
NITROGLYCERIN	1.0	U	1.0	LOD	1.0	LOQ	ug/L	UJ	Lcs

SDG: K1606502

Method Category: METALS

Method: 6020A

Matrix: Water

6/13/2016 12:00:0

Sample ID: EB061316 **Collected:** AM **Analysis Type:** Initial/TOT **Dilution:** 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
COPPER	0.07	J	0.05	LOD	0.10	LOQ	ug/L	J	RI
NICKEL	0.07	J	0.05	LOD	0.20	LOQ	ug/L	U	Cb
LEAD	0.009	J	0.010	LOD	0.020	LOQ	ug/L	U	Cb

Method Category: SVOA

Method: 8330B

Matrix: Soil

6/13/2016 1:00:0

Sample ID: FTBL-IS-105-061316 **Collected:** PM **Analysis Type:** Initial1 **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs

6/13/2016 1:00:0

Sample ID: FTBL-IS-105-061316 **Collected:** PM **Analysis Type:** Initial2 **Dilution:** 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

* denotes a non-reportable result

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606502

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-105-061316

Collected: PM

6/13/2016 1:00:0

Analysis Type: Initial2

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-106-061316

Collected: PM

6/13/2016 3:25:0

Analysis Type: Initial1

Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.081	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev
 SDG: K1606502

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

Method Category: SVOA

Method: 8330B

Matrix: Soil

Sample ID: FTBL-IS-106-061316		6/13/2016 3:25:0		Collected: PM		Analysis Type: Initial1		Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Lcs
Tetryl	0.081	U	0.081	LOD	0.081	LOQ	mg/Kg	UJ	Lcs

Sample ID: FTBL-IS-106-061316		6/13/2016 3:25:0		Collected: PM		Analysis Type: Initial2		Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.081	LOQ	mg/Kg	R	Lcs

Sample ID: FTBL-IS-110-061316		6/13/2016 11:35		Collected: AM		Analysis Type: Initial1		Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
3-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	R	Lcs

Sample ID: FTBL-IS-110-061316		6/13/2016 11:35		Collected: AM		Analysis Type: Initial2		Dilution: 1	
Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Ms, Lcs
1,3-DINITROBENZENE	0.041	U	0.041	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	R	Lcs
2,4-DINITROTOLUENE	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
2,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Ms, Lcs
2-AMINO-4,6-DINITROTOLUENE	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Lcs
2-NITROTOLUENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
3,5-Dinitroaniline	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Ms, Lcs
4-Amino-2,6-Dinitrotoluene	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
4-NITROTOLUENE	0.041	U	0.041	LOD	0.082	LOQ	mg/Kg	UJ	Lcs
HMX	0.021	U	0.021	LOD	0.041	LOQ	mg/Kg	UJ	Ms, Lcs
NITROBENZENE	0.021	U	0.021	LOD	0.082	LOQ	mg/Kg	R	Lcs
NITROGLYCERIN	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
Pentaerythritol Tetranitrate (PETN)	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	R	Lcs
RDX	0.21	U	0.21	LOD	0.21	LOQ	mg/Kg	UJ	Ms, Lcs

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

8/24/2016 9:32:20 AM

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Data Qualifier Summary

K1606502, K1606639
 EDD Filename: K1606091_SEDD2A_rev,
 K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
 K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
 eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1606502

Method Category: SVOA

Method: 8330B

Matrix: Soil

6/13/2016 11:35:

Sample ID: FTBL-IS-110-061316 Collected: AM Analysis Type: Initial2 Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
Tetryl	0.082	U	0.082	LOD	0.082	LOQ	mg/Kg	UJ	Lcs

Method Category: SVOA

Method: 8330B

Matrix: Water

6/13/2016 12:00:

Sample ID: EB061316 Collected: AM Analysis Type: Initial/TOT Dilution: 1

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
1,3,5-TRINITROBENZENE	0.20	U	0.20	LOD	0.20	LOQ	ug/L	UJ	Lcs
1,3-DINITROBENZENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
2,4,6-TRINITROTOLUENE	0.20	U	0.20	LOD	0.20	LOQ	ug/L	UJ	Lcs
2,4-DINITROTOLUENE	0.20	U	0.20	LOD	0.20	LOQ	ug/L	UJ	Lcs
2,6-DINITROTOLUENE	0.20	U	0.20	LOD	0.20	LOQ	ug/L	UJ	Lcs
2-AMINO-4,6-DINITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
2-NITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
3,5-Dinitroaniline	0.20	U	0.20	LOD	0.20	LOQ	ug/L	UJ	Lcs
3-NITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
4-Amino-2,6-Dinitrotoluene	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
4-NITROTOLUENE	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
HMX	0.10	U	0.10	LOD	0.10	LOQ	ug/L	UJ	Lcs
NITROGLYCERIN	1.0	U	1.0	LOD	1.0	LOQ	ug/L	UJ	Lcs
Pentaerythritol Tetranitrate (PETN)	1.0	U	1.0	LOD	1.0	LOQ	ug/L	UJ	Lcs
Tetryl	0.20	U	0.20	LOD	0.20	LOQ	ug/L	UJ	Ccv

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Data Qualifier Summary

K1606502, K1606639
EDD Filename: K1606091_SEDD2A_rev,
K1606204_SEDD2A_rev, K1606364_SEDD2A_rev,
K1606502_SEDD2A_rev, K1606639_SEDD2A_rev

Laboratory: ALS_K
eQAPP Name: Arcadis_FtBliss_ALS_160627

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
Cb	Calibration Blank Contamination
Ccv	Continuing Calibration Verification Percent Difference Lower Estimation
Ft	Field Triplicate Precision
Lcs	Laboratory Control Precision
Lcs	Laboratory Control Spike Lower Estimation
Lcs	Laboratory Control Spike Lower Rejection
Mb	Method Blank Contamination
Ms	Matrix Spike Lower Estimation
Ms	Matrix Spike Lower Rejection
Ms	Matrix Spike Precision
Ms	Matrix Spike Upper Estimation
ProfJudg	Professional Judgment
RI	Reporting Limit Trace Value
Surr	Surrogate/Tracer Recovery Lower Estimation

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Enclosure I
Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

K1606091

Method Blank Outlier Report

Lab Reporting Batch ID: K1606091

Laboratory: ALS_K

EDD Filename: K1606091_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A				
Matrix: Soil				
Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KQ1606738-04	6/28/2016 9:31:00 AM	ZINC	0.3 mg/Kg	FTBL-IS-003-060616-A FTBL-IS-003-060616-B FTBL-IS-003-060616-C FTBL-IS-013-060616 FTBL-IS-014-060616 FTBL-IS-017-060616 FTBL-IS-018-060616

Method: 8330B				
Matrix: Soil				
Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KWG1604937-8	7/23/2016 1:21:00 AM	1,3-DINITROBENZENE NITROGLYCERIN	0.013 mg/Kg 0.11 mg/Kg	FTBL-IS-003-060616-A FTBL-IS-003-060616-B FTBL-IS-003-060616-C FTBL-IS-013-060616 FTBL-IS-014-060616 FTBL-IS-017-060616 FTBL-IS-018-060616

The following samples and their listed target analytes were qualified due to contamination reported in this blank

Sample ID	Analyte	Reported Result	Modified Final Result
FTBL-IS-003-060616-B(Initial1)	1,3-DINITROBENZENE	0.015 mg/Kg	0.015U mg/Kg

Method: 8330B				
Matrix: Water				
Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KWG1604697-3	6/24/2016 7:03:00 AM	2,6-DINITROTOLUENE	0.058 ug/L	EB060616

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

8/19/2016 12:57:15 PM

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: K1606091

Laboratory: ALS_K

EDD Filename: K1606091_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
FTBL-IS-003-060616-AMS (Dry) FTBL-IS-003-060616-AMSD (Dry) (FTBL-IS-003-060616-A)	ANTIMONY	45	44	72.00-124.00	-	ANTIMONY	No Qual Post Spike within limits

Method: 8330B

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
FTBL-IS-003-060616-AMSD (FTBL-IS-003-060616-A)	3,5-Dinitroaniline	-	84	86.00-118.00	-	3,5-Dinitroaniline	J(all detects) UJ(all non-detects)

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: K1606091

Laboratory: ALS_K

EDD Filename: K1606091_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 8330B

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
KWG1604937-7 (FTBL-IS-003-060616-A FTBL-IS-003-060616-B FTBL-IS-003-060616-C FTBL-IS-013-060616 FTBL-IS-014-060616 FTBL-IS-017-060616 FTBL-IS-018-060616)	2,4,6-TRINITROTOLUENE 2-NITROTOLUENE NITROBENZENE NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	8 9 1 6 7	- - - - -	71.00-120.00 70.00-124.00 67.00-129.00 73.00-124.00 72.00-128.00	- - - - -	2,4,6-TRINITROTOLUENE 2-NITROTOLUENE NITROBENZENE NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	J(all detects) R(all non-detects)
KWG1604937-7 (FTBL-IS-003-060616-A FTBL-IS-003-060616-B FTBL-IS-003-060616-C FTBL-IS-013-060616 FTBL-IS-014-060616 FTBL-IS-017-060616 FTBL-IS-018-060616)	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3,5-Dinitroaniline 3-NITROTOLUENE 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE Tetryl	45 23 52 54 59 44 18 30 26 26	- - - - - - - - - -	80.00-116.00 73.00-119.00 75.00-121.00 79.00-117.00 71.00-123.00 86.00-118.00 67.00-129.00 64.00-127.00 71.00-124.00 68.00-135.00	- - - - - - - - - -	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3,5-Dinitroaniline 3-NITROTOLUENE 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE Tetryl	J(all detects) UJ(all non-detects)

Method: 8330B

Matrix: Water

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
KWG1604697-1 KWG1604697-2 (EB060616)	1,3-DINITROBENZENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3-NITROTOLUENE 4-NITROTOLUENE HMX NITROGLYCERIN	76 67 76 70 69 61 -	- - - - - - -	78.00-120.00 77.00-127.00 79.00-120.00 73.00-125.00 71.00-127.00 65.00-135.00 74.00-127.00	- 22 (20.00) - 24 (20.00) 21 (20.00) - 22 (20.00)	1,3-DINITROBENZENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3-NITROTOLUENE 4-NITROTOLUENE HMX NITROGLYCERIN	J (all detects) UJ (all non-detects)

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Field Triplicate RSD Report

Lab Reporting Batch ID: K1606091

Laboratory: ALS_K

EDD Filename: K1606091_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Soil

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	FTBL- IS-003-060616-A	FTBL- IS-003-060616-B	FTBL- IS-003-060616-C			
ANTIMONY	0.329	0.391	0.371	8.7	20.00	No Qualifiers Applied
ARSENIC	6.52	6.79	6.79	2.33	20.00	
BERYLLIUM	0.864	0.916	0.877	3.06	20.00	
COPPER	22.6	23.2	20.8	5.63	20.00	
LEAD	42.8	40.8	36.0	8.77	20.00	
NICKEL	9.64	10.1	9.82	2.35	20.00	
ZINC	59.3	62.5	57.6	4.16	20.00	

Method: 8330B

Matrix: Soil

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	FTBL- IS-003-060616-A	FTBL- IS-003-060616-B	FTBL- IS-003-060616-C			
1,3-DINITROBENZENE	0.081 U	0.015	0.041 U	NC	20.00	No Qualifiers Applied
3-NITROTOLUENE	0.081 U	0.020	0.041 U	NC	20.00	
HMX	0.041 U	0.0089	0.021 U	NC	20.00	

* - RPD was calculated and compared against library RPD because only two samples among the triplicate set had detected results.
NC - (Not Calculated) is reported if only one sample among the triplicate set has a detected result.

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

8/19/2016 1:02:56 PM

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Reporting Limit Outliers

Lab Reporting Batch ID: K1606091

Laboratory: ALS_K

EDD Filename: K1606091_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 8330B

Matrix: Soil

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
FTBL-IS-003-060616-B	1,3-DINITROBENZENE	JN	0.015	0.041	LOQ	mg/Kg	J (all detects)
	3-NITROTOLUENE	JN	0.020	0.082	LOQ	mg/Kg	
	HMX	JN	0.0089	0.041	LOQ	mg/Kg	
FTBL-IS-014-060616	4-Amino-2,6-Dinitrotoluene	JN	0.017	0.081	LOQ	mg/Kg	J (all detects)
FTBL-IS-018-060616	1,3,5-TRINITROBENZENE	JN	0.027	0.080	LOQ	mg/Kg	J (all detects)
	NITROBENZENE	JN	0.0061	0.080	LOQ	mg/Kg	

Method: 6020A

Matrix: Water

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB060616	LEAD	J	0.006	0.020	LOQ	ug/L	J (all detects)
	NICKEL	J	0.09	0.20	LOQ	ug/L	

LDC #: 36840A4a
 SDG #: K1606091
 Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET ADR

Date: 8/4/16

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/N	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	ICB/CCB only
VI.	Field Blanks	N	EB=8
VII.	Matrix Spike/Matrix Spike Duplicates	N	MS/D (Sb, no equal PS in limits)
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	A	
X.	Laboratory control samples	N	LCS
XI.	Field Duplicates	N	(1, 2, 3)
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data		

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-003-060616-A	K1606091-001	Soil	06/06/16
2	FTBL-IS-003-060616-B	K1606091-002	Soil	06/06/16
3	FTBL-IS-003-060616-C	K1606091-003	Soil	06/06/16
4	FTBL-IS-013-060616	K1606091-004	Soil	06/06/16
5	FTBL-IS-014-060616	K1606091-005	Soil	06/06/16
6	FTBL-IS-017-060616	K1606091-006	Soil	06/06/16
7	FTBL-IS-018-060616	K1606091-007	Soil	06/06/16
8	EB060616	K1606091-008	Water	06/06/16
9	FTBL-IS-003-060616-AMS	K1606091-001MS	Soil	06/06/16
10	FTBL-IS-003-060616-AMSD	K1606091-001MSD	Soil	06/06/16
11				
12				
13				

Notes:

LDC #: 36840A4a

VALIDATION FINDINGS WORKSHEET

Sample Specific Element Reference

(b) (6)

All circled elements are applicable to each sample.

[illegible]

Comments: Mercury by CVAA if performed

PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: am

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: _____

2nd Reviewer: sm

Sample Concentration units, unless otherwise noted: ug/L

Associated Samples: All water

				Sample Identification										
Analyte	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Action Level	8										
Sb		0.007	0.035											
Pb		0.005	0.025	0.006 / 0.010										
Ni		0.06	0.3	0.09 / 0.05										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 36840A40
 SDG #: K1606091
 Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET ADR

Date: 8/10/16

(b) (6)

METHOD: HPLC Explosives (EPA SW 846 Method 8330B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	Initial calibration/ICV	A/A	
III.	Continuing calibration	A	
IV.	Laboratory Blanks	N	
V.	Field blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Field duplicates	W	TR = 1+2+3
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-003-060616-A	K1606091-001	Soil	06/06/16
2	FTBL-IS-003-060616-B	K1606091-002	Soil	06/06/16
3	FTBL-IS-003-060616-C	K1606091-003	Soil	06/06/16
4	FTBL-IS-013-060616	K1606091-004	Soil	06/06/16
5	FTBL-IS-014-060616	K1606091-005	Soil	06/06/16
6	FTBL-IS-017-060616	K1606091-006	Soil	06/06/16
7	FTBL-IS-018-060616	K1606091-007	Soil	06/06/16
8	EB060616	K1606091-008	Water	06/06/16
9	FTBL-IS-003-060616-AMS	K1606091-001MS	Soil	06/06/16
10	FTBL-IS-003-060616-AMSD	K1606091-001MSD	Soil	06/06/16
11	FTBL-IS-003-060616-ADUP	K1606091-001DUP	Soil	06/06/16
12	FTBL-IS-003-060616-ATRP	K1606091-001TRP	Soil	06/06/16
13				
14				
15				
16				
17				

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141(Con't)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethylbenzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. o-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. m,p-Xylenes
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total xylenes
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotepp	BB. Famphur	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Phosmet	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	Krone
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	A. Tetra-n-butyltin
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Tetrachlorvinphos	B. Tri-n-butyltin Cation
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Sulprofos	C. Di-n-butyltin Cation
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		D. N-Butyltin Cation
P. Pyrene	P. 3,5-Dinitroaniline		P. Fenthion		
Q.	Q. Pentaerythritol Tetranitrate		Q. Parathion-ethyl		
R.	R.		R. Trichloronate		
S.			S. Merphos		
			T. Stirophos		
			U. Tokuthion		

Notes:

(b) (6)

METHOD: GC ☒ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D Only

Y N ~~N/A~~

Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?

Y N ~~W~~ A

Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

Y	N	N/A
---	---	-----

Did the relative percent differences of detected compounds between two columns./detectors $\leq 40\%$?

If no, please see findings bellow.

[illegible]

Comments: See sample calculation verification worksheet for recalculations

LDC#: 36840A40**VALIDATION FINDINGS WORKSHEET**
Field Triplicates

(b) (6)

METHOD: Explosives (EPA SW846 Method 8330B)Y N NA

Were lab triplicates sets identified in this SDG?

Y N NA

Were target analytes detected in the field triplicate sets?

Compound	Concentration (mg/kg)			RSD (≤20%)	Qual
	1	2	3		
A	0.041U	0.0089	0.021U	69	NQ
D	0.081U	0.015	0.041U	73	NQ
M	0.081U	0.020	0.041U	65	NQ

NQ = One or two results were < 5x the Limit of Quantitation (LOQ), therefore no data were qualified.

V:\FIELD REPLICATES\36840A40_Arcadis.wpd

Quality Control Outlier Reports

K1606204

Method Blank Outlier Report

Lab Reporting Batch ID: K1606204

Laboratory: ALS_K

EDD Filename: K1606204_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A				
Matrix: Soil				
Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KQ1606863-01	6/28/2016 10:42:00 AM	LEAD	0.02 mg/Kg	FTBL-IS-015-060716 FTBL-IS-016-060716 FTBL-IS-019-060716 FTBL-IS-021-060716 FTBL-IS-024-060716 FTBL-IS-025-060716 FTBL-IS-026-060716 FTBL-IS-027-060716

Method: 8330B				
Matrix: Soil				
Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KWG1605000-4	7/22/2016 5:30:00 PM	3-NITROTOLUENE	0.085 mg/Kg	FTBL-IS-015-060716 FTBL-IS-016-060716 FTBL-IS-019-060716 FTBL-IS-021-060716 FTBL-IS-024-060716 FTBL-IS-025-060716 FTBL-IS-026-060716 FTBL-IS-027-060716

Method: 8330B				
Matrix: Water				
Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KWG1604697-3	6/24/2016 7:03:00 AM	2,6-DINITROTOLUENE	0.058 ug/L	EB060716

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: K1606204

Laboratory: ALS_K

EDD Filename: K1606204_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
FTBL-IS-027-060716MS (Dry) FTBL-IS-027-060716MSD (Dry) (FTBL-IS-027-060716)	ANTIMONY	35	35	72.00-124.00	-	ANTIMONY	No Qual, Post Spike In

Method: 8330B

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
FTBL-IS-027-060716MS FTBL-IS-027-060716MSD (FTBL-IS-027-060716)	1,3,5-TRINITROBENZENE	-	73	80.00-116.00	-	1,3,5-TRINITROBENZENE	J(all detects) UJ(all non-detects)
	2,6-DINITROTOLUENE	-	77	79.00-117.00	-	2,6-DINITROTOLUENE	
	2-NITROTOLUENE	-	63	70.00-124.00	-	2-NITROTOLUENE	
	3,5-Dinitroaniline	79	70	86.00-118.00	-	3,5-Dinitroaniline	
	3-NITROTOLUENE	-	66	67.00-129.00	-	3-NITROTOLUENE	
	4-NITROTOLUENE	-	67	71.00-124.00	-	4-NITROTOLUENE	
	HMX	69	61	74.00-124.00	-	HMX	
	NITROBENZENE	-	65	67.00-129.00	-	NITROBENZENE	
	RDX	-	63	67.00-129.00	-	RDX	

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: K1606204

Laboratory: ALS_K

EDD Filename: K1606204_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 8330B
Matrix: Soil

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
KWG1605000-3 (FTBL-IS-015-060716 FTBL-IS-016-060716 FTBL-IS-019-060716 FTBL-IS-021-060716 FTBL-IS-024-060716 FTBL-IS-025-060716 FTBL-IS-026-060716 FTBL-IS-027-060716)	2,4,6-TRINITROTOLUENE NITROBENZENE NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	7 3 0 0	- - - -	71.00-120.00 67.00-129.00 73.00-124.00 72.00-128.00	- - - -	2,4,6-TRINITROTOLUENE NITROBENZENE NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	J(all detects) R(all non-detects)
KWG1605000-3 KWG1605000-7 (FTBL-IS-015-060716 FTBL-IS-016-060716 FTBL-IS-019-060716 FTBL-IS-021-060716 FTBL-IS-024-060716 FTBL-IS-025-060716 FTBL-IS-026-060716 FTBL-IS-027-060716)	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 2-NITROTOLUENE 3,5-Dinitroaniline 3-NITROTOLUENE 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX Tetryl	43 21 49 51 53 10 38 21 27 28 70 27	- - - - - - - - - - - -	80.00-116.00 73.00-119.00 75.00-121.00 79.00-117.00 71.00-123.00 70.00-124.00 86.00-118.00 67.00-129.00 64.00-127.00 71.00-124.00 74.00-124.00 68.00-135.00	- - - - - - - - - - - -	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 2-NITROTOLUENE 3,5-Dinitroaniline 3-NITROTOLUENE 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX Tetryl	J(all detects) UJ(all non-detects)

Method: 8330B

Matrix: Water

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
KWG1604697-1 KWG1604697-2 (EB060716)	1,3-DINITROBENZENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3-NITROTOLUENE 4-NITROTOLUENE HMX NITROGLYCERIN	76 67 76 70 69 61 -	- - - - - - -	78.00-120.00 77.00-127.00 79.00-120.00 73.00-125.00 71.00-127.00 65.00-135.00 74.00-127.00	- 22 (20.00) - 24 (20.00) 21 (20.00) - 22 (20.00)	1,3-DINITROBENZENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3-NITROTOLUENE 4-NITROTOLUENE HMX NITROGLYCERIN	J (all detects) UJ (all non-detects)

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Reporting Limit Outliers

Lab Reporting Batch ID: K1606204

Laboratory: ALS_K

EDD Filename: K1606204_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 8330B
Matrix: Soil

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
FTBL-IS-015-060716	2,6-DINITROTOLUENE	JN	0.024	0.040	LOQ	mg/Kg	J (all detects)
FTBL-IS-016-060716	2,6-DINITROTOLUENE	JN	0.028	0.041	LOQ	mg/Kg	J (all detects)
	NITROGLYCERIN	JN	0.065	0.21	LOQ	mg/Kg	J (all detects)
FTBL-IS-019-060716	2,6-DINITROTOLUENE	JN	0.021	0.041	LOQ	mg/Kg	J (all detects)
FTBL-IS-021-060716	2,6-DINITROTOLUENE	JN	0.022	0.040	LOQ	mg/Kg	J (all detects)
	NITROGLYCERIN	JN	0.066	0.20	LOQ	mg/Kg	J (all detects)
FTBL-IS-027-060716	NITROGLYCERIN	JN	0.10	0.21	LOQ	mg/Kg	J (all detects)

Method: 6020A
Matrix: Water

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB060716	ANTIMONY	J	0.012	0.050	LOQ	ug/L	J (all detects)
	COPPER	J	0.05	0.10	LOQ	ug/L	
	LEAD	J	0.011	0.020	LOQ	ug/L	
	NICKEL	J	0.05	0.20	LOQ	ug/L	
	ZINC	J	0.4	0.5	LOQ	ug/L	

LDC #: 36840B4a
SDG #: K1606204
Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET ADR

Date: 8/16
Page: 1 of 1

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	/N	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	ICB/CCB only
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	N	MS/D (10/11: SB no qual - PS in limits)
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	A	
X.	Laboratory control samples	N	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-027-060716	K1606204-001	Soil	06/07/16
2	FTBL-IS-025-060716	K1606204-002	Soil	06/07/16
3	FTBL-IS-024-060716	K1606204-003	Soil	06/07/16
4	FTBL-IS-026-060716	K1606204-004	Soil	06/07/16
5	FTBL-IS-015-060716	K1606204-005	Soil	06/07/16
6	FTBL-IS-016-060716	K1606204-006	Soil	06/07/16
7	FTBL-IS-019-060716	K1606204-007	Soil	06/07/16
8	FTBL-IS-021-060716	K1606204-008	Soil	06/07/16
9	EB060716	K1606204-009	Water	06/07/16
10	FTBL-IS-027-060716MS	K1606204-001MS	Soil	06/07/16
11	FTBL-IS-027-060716MSD	K1606204-001MSD	Soil	06/07/16
12				
13				
14				

Notes:

VALIDATION FINDINGS WORKSHEET

Sample Specific Element Reference

(b) (6)

All circled elements are applicable to each sample.

[illegible]

Comments: Mercury by CVAA if performed

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: _____

(b) (6)

Sample Concentration units, unless otherwise noted: _____ ug/L

Associated Samples: _____ All water

				Sample Identification										
Analyte	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Action Level	9										
Sb		0.007	0.035	0.012										
Pb		0.005	0.025	0.011										
Ni		0.06	0.3	0.05										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 36840B40
 SDG #: K1606204
 Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET ADR

Date: 8/10/16

(b) (6)

METHOD: HPLC Explosives (EPA SW 846 Method 8330B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	Initial calibration/ICV	A, A	
III.	Continuing calibration	A	
IV.	Laboratory Blanks	N	
V.	Field blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-027-060716	K1606204-001	Soil	06/07/16
2	FTBL-IS-025-060716	K1606204-002	Soil	06/07/16
3	FTBL-IS-024-060716	K1606204-003	Soil	06/07/16
4	FTBL-IS-026-060716	K1606204-004	Soil	06/07/16
5	FTBL-IS-015-060716	K1606204-005	Soil	06/07/16
6	FTBL-IS-016-060716	K1606204-006	Soil	06/07/16
7	FTBL-IS-019-060716	K1606204-007	Soil	06/07/16
8	FTBL-IS-021-060716	K1606204-008	Soil	06/07/16
9	EB060716	K1606204-009	Water	06/07/16
10	FTBL-IS-027-060716MS	K1606204-001MS	Soil	06/07/16
11	FTBL-IS-027-060716MSD	K1606204-001MSD	Soil	06/07/16
12	FTBL-IS-027-060716DUP	K1606204-001DUP	Soil	06/07/16
13	FTBL-IS-027-060716TRP	K1606204-001TRP	Soil	06/07/16
14				
15				
16				
17				

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141(Con't)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethylbenzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. o-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. m,p-Xylenes
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total xylenes
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotepp	BB. Famphur	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Phosmet	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	Krone
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	A. Tetra-n-butyltin
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Tetrachlorvinphos	B. Tri-n-butyltin Cation
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Sulprofos	C. Di-n-butyltin Cation
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		D. N-Butyltin Cation
P. Pyrene	P. 3,5-Dinitroaniline		P. Fenthion		
Q.	Q. Pentaerythritol Tetranitrate		Q. Parathion-ethyl		
R.	R.		R. Trichloronate		
S.			S. Merphos		
			T. Stirophos		
			U. Tokuthion		

Notes:

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported CRQLs

(b) (6)

METHOD: GC ☒ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D OnlyY ☒ N ☒ N/A

Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?

Y ☒ N ☒ N/A

Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

Y ☒ N ☒ N/ADid the relative percent differences of detected compounds between two columns./detectors $\leq 40\%$?

If no, please see findings below.

#	Compound Name	Sample ID	%RPD Between Two Columns/Detectors Limit ($\leq 40\%$)	Qualifications
	<u>D</u>	<u>1</u>	<u>not confirmed</u>	<u>NJ Ret 1/A</u>
	<u>K</u>	<u>5</u>		
	<u>K, D</u>	<u>6</u>		
	<u>K</u>	<u>7</u>		
	<u>K, D</u>	<u>8</u>		

Comments: See sample calculation verification worksheet for recalculations

Quality Control Outlier Reports

K1606502

Method Blank Outlier Report

Lab Reporting Batch ID: K1606502

Laboratory: ALS_K

EDD Filename: K1606502_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A				
Matrix: Soil				
Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KQ1607933-01	7/26/2016 5:52:00 PM	BERYLLIUM	0.011 mg/Kg	FTBL-IS-105-061316 FTBL-IS-106-061316 FTBL-IS-110-061316

Method: 8330B				
Matrix: Soil				
Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KWG1605229-4	7/18/2016 9:36:00 AM	2,6-DINITROTOLUENE 2-NITROTOLUENE	0.025 mg/Kg 0.014 mg/Kg	FTBL-IS-105-061316 FTBL-IS-106-061316 FTBL-IS-110-061316

Method: 8330B				
Matrix: Water				
Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KWG1604920-3	6/29/2016 9:11:00 AM	Pentaerythritol Tetranitrate (PETN)	1.5 ug/L	EB061316

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

8/19/2016 1:12:39 PM

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: K1606502

Laboratory: ALS_K

EDD Filename: K1606502_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
FTBL-IS-110-061316MS (Dry) FTBL-IS-110-061316MSD (Dry) (FTBL-IS-110-061316)	LEAD	18	13	84.00-118.00	-	LEAD	No Qual Serial Dilution In
FTBL-IS-110-061316MS (Dry) FTBL-IS-110-061316MSD (Dry) (FTBL-IS-110-061316)	ANTIMONY	43	41	72.00-124.00	-	ANTIMONY	No Qual, Post Spike In

Method: 8330B

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
FTBL-IS-110-061316MS FTBL-IS-110-061316MSD (FTBL-IS-110-061316)	1,3-DINITROBENZENE 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 4-Amino-2,6-Dinitrotoluene NITROGLYCERIN Pentaerythritol Tetranitrate (PETN) Tetryl	153 148 157 150 138 148 161 143	- - - - - - - -	73.00-119.00 71.00-120.00 75.00-121.00 71.00-123.00 64.00-127.00 73.00-124.00 72.00-128.00 68.00-135.00	66 (20.00) 66 (20.00) 65 (20.00) 64 (20.00) 63 (20.00) 64 (20.00) 66 (20.00) 65 (20.00)	1,3-DINITROBENZENE 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLU 4-Amino-2,6-Dinitrotoluene NITROGLYCERIN Pentaerythritol Tetranitrate (PETN) Tetryl	J(all detects)
FTBL-IS-110-061316MS FTBL-IS-110-061316MSD (FTBL-IS-110-061316)	1,3,5-TRINITROBENZENE 2,6-DINITROTOLUENE 2-NITROTOLUENE 3,5-Dinitroaniline HMX RDX	150 152 61 136 128 -	76 78 - 71 66 65	80.00-116.00 79.00-117.00 70.00-124.00 86.00-118.00 74.00-124.00 67.00-129.00	67 (20.00) 66 (20.00) 22 (20.00) 64 (20.00) 65 (20.00) 67 (20.00)	1,3,5-TRINITROBENZENE 2,6-DINITROTOLUENE 2-NITROTOLUENE 3,5-Dinitroaniline HMX RDX	J(all detects) UJ(all non-detects)

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

8/19/2016 1:14:36 PM

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Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: K1606502

Laboratory: ALS_K

EDD Filename: K1606502_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 8330B

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
KWG1605229-3 (FTBL-IS-105-061316 FTBL-IS-106-061316 FTBL-IS-110-061316)	2,4,6-TRINITROTOLUENE 2-NITROTOLUENE 3-NITROTOLUENE NITROBENZENE NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	5 2 5 1 0 6	- - - - - -	71.00-120.00 70.00-124.00 67.00-129.00 67.00-129.00 73.00-124.00 72.00-128.00	- - - - - -	2,4,6-TRINITROTOLUENE 2-NITROTOLUENE 3-NITROTOLUENE NITROBENZENE NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	J(all detects) R(all non-detects)
KWG1605229-3 KWG1605229-7 (FTBL-IS-105-061316 FTBL-IS-106-061316 FTBL-IS-110-061316)	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3,5-Dinitroaniline 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX RDX Tetryl	38 19 42 42 48 36 25 12 66 66 21	- - - - - - - - - - -	80.00-116.00 73.00-119.00 75.00-121.00 79.00-117.00 71.00-123.00 86.00-118.00 84.00-127.00 71.00-124.00 74.00-124.00 67.00-129.00 68.00-135.00	- - - - - - - - - - -	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3,5-Dinitroaniline 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX RDX Tetryl	J(all detects) UJ(all non-detects)

Method: 8330B

Matrix: Water

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
KWG1604920-1 KWG1604920-2 (EB061316)	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 2-NITROTOLUENE 3,5-Dinitroaniline 3-NITROTOLUENE 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	- 76 - - 63 77 68 - 69 - 67 64 - -	68 66 64 69 58 65 61 64 60 66 60 54 69 72	73.00-125.00 78.00-120.00 71.00-123.00 78.00-120.00 77.00-127.00 79.00-120.00 70.00-127.00 71.00-117.00 73.00-125.00 76.00-125.00 71.00-127.00 65.00-135.00 74.00-127.00 73.00-127.00	- - - - - - - - - - - - - -	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 2-NITROTOLUENE 3,5-Dinitroaniline 3-NITROTOLUENE 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	J (all detects) UJ (all non-detects)

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Reporting Limit Outliers

Lab Reporting Batch ID: K1606502

Laboratory: ALS_K

EDD Filename: K1606502_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Water

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB061316	COPPER	J	0.07	0.10	LOQ	ug/L	J (all detects)
	LEAD	J	0.009	0.020	LOQ	ug/L	
	NICKEL	J	0.07	0.20	LOQ	ug/L	

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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LDC #: 36840D4a
 SDG #: K1606502
 Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET ADR

Date: 8/11/16

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / N	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	ICB/CCB only
VI.	Field Blanks	N	EB=4
VII.	Matrix Spike/Matrix Spike Duplicates	N	MS/D (5/6: Sb-noqual, Pb-in)
VIII.	Duplicate sample analysis	N	Pb-noqual, SO in)
IX.	Serial Dilution	A	
X.	Laboratory control samples	N	
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-110-061316	K1606502-001	Soil	06/13/16
2	FTBL-IS-105-061316	K1606502-002	Soil	06/13/16
3	FTBL-IS-106-061316	K1606502-003	Soil	06/13/16
4	EB061316	K1606502-004	Water	06/13/16
5	FTBL-IS-110-061316MS	K1606502-001MS	Soil	06/13/16
6	FTBL-IS-110-061316MSD	K1606502-001MSD	Soil	06/13/16
7				
8				
9				
10				
11				
12				

Notes:

VALIDATION FINDINGS WORKSHEET

Sample Specific Element Reference

All circled elements are applicable to each sample.

[illegible]

Comments: Mercury by CVAA if performed

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: 100x x 5xdil

Sample Concentration units, unless otherwise noted: ug/L

Associated Samples: All water

				Sample Identification										
Analyte	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	4										
Sb		0.007	0.035											
Pb		0.005	0.025	0.009 / 0.010										
Ni		0.06	0.3	0.07										

Sample Concentration units, unless otherwise noted: ug/L

Associated Samples: All soil

				Sample Identification										
Analyte	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	no quals (>5x)										
Be		0.011	0.0275											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 36840D40
 SDG #: K1606502
 Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET ADR

Date: 8/10/16
 Page: 1 of 1

(b) (6)

METHOD: HPLC Explosives (EPA SW 846 Method 8330B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	Initial calibration/ICV	A, A	
III.	Continuing calibration	M	
IV.	Laboratory Blanks	N	
V.	Field blanks	N	
VI.	Surrogate spikes	N	
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	N	
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-110-061316	K1606502-001	Soil	06/13/16
2	FTBL-IS-105-061316	K1606502-002	Soil	06/13/16
3	FTBL-IS-106-061316	K1606502-003	Soil	06/13/16
4	EB061316	K1606502-004	Water	06/13/16
5	FTBL-IS-110-061316MS	K1606502-001MS	Soil	06/13/16
6	FTBL-IS-110-061316MSD	K1606502-001MSD	Soil	06/13/16
7	FTBL-IS-110-061316DUP	K1606502-001DUP	Soil	06/13/16
8	FTBL-IS-110-061316TRP	K1606502-001TRP	Soil	06/13/16
9				
10				
11				
12				
13				

Notes:

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141(Con't)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethylbenzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. o-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. m,p-Xylenes
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total xylenes
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotepp	BB. Famphur	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Phosmet	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	Krone
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	A. Tetra-n-butyltin
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Tetrachlorvinphos	B. Tri-n-butyltin Cation
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Sulprofos	C. Di-n-butyltin Cation
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		D. N-Butyltin Cation
P. Pyrene	P. 3,5-Dinitroaniline		P. Fenthion		
Q.	Q. Pentaerythritol Tetranitrate		Q. Parathion-ethyl		
R.	R.		R. Trichloronate		
S.			S. Merphos		
			T. Stirophos		
			U. Tokuthion		

Notes: _____

LDC #: 36840040

VALIDATION FINDINGS WORKSHEET

Continuing Calibration

Page: / of /
(b) (6)

METHOD: GC HPLC

(b) (6)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y ~~N/A~~ Were continuing calibration standards analyzed at the required frequencies?

Y/N N/A Did the continuing calibration standards meet the %D validation criteria of $\leq 20.0\%$?

~~Level IV Only~~

Y/N/N/A Were the retention times for all calibrated compounds within their respective acceptance windows?

[illegible]

Quality Control Outlier Reports

K1606364

Method Blank Outlier Report

Lab Reporting Batch ID: K1606364

Laboratory: ALS_K

EDD Filename: K1606364_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A
Matrix: Soil

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KQ1607968-01RE	7/27/2016 10:14:00 AM	LEAD	0.05 mg/Kg	FTBL-IS-071-060916 FTBL-IS-071-060916RE FTBL-IS-073-060916 FTBL-IS-073-060916RE FTBL-IS-074-060916-A FTBL-IS-074-060916-ARE FTBL-IS-074-060916-B FTBL-IS-074-060916-BRE FTBL-IS-074-060916-C FTBL-IS-074-060916-CRE FTBL-IS-075-060916 FTBL-IS-075-060916RE FTBL-IS-076-060916 FTBL-IS-076-060916RE FTBL-IS-077-060916-A FTBL-IS-077-060916-ARE FTBL-IS-077-060916-B FTBL-IS-077-060916-BRE FTBL-IS-077-060916-C FTBL-IS-077-060916-CRE

Method: 8330B
Matrix: Soil

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KWG1605126-8	7/17/2016 1:40:00 PM	3-NITROTOLUENE	0.056 mg/Kg	FTBL-IS-071-060916 FTBL-IS-073-060916 FTBL-IS-074-060916-A FTBL-IS-074-060916-B FTBL-IS-074-060916-C FTBL-IS-075-060916 FTBL-IS-076-060916 FTBL-IS-077-060916-A FTBL-IS-077-060916-B FTBL-IS-077-060916-C

Method: 8330B
Matrix: Water

Method Blank Sample ID	Analysis Date	Analyte	Result	Associated Samples
KWG1604697-3	6/24/2016 7:03:00 AM	2,6-DINITROTOLUENE	0.058 ug/L	EB060916

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: K1606364

Laboratory: ALS_K

EDD Filename: K1606364_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
FTBL-IS-077-060916-AMS (Dry) FTBL-IS-077-060916-AMSD (Dry) (FTBL-IS-077-060916-A)	ANTIMONY LEAD	13 -415	4 -626	72.00-124.00 84.00-118.00	- 39.2 (20.00)	ANTIMONY LEAD	No Qual, Post Spike In

Method: 8330B

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	MS %R	MSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
FTBL-IS-077-060916-AMS FTBL-IS-077-060916-AMSD (FTBL-IS-077-060916-A)	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 2-NITROTOLUENE 3,5-Dinitroaniline 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX NITROGLYCERIN Pentaerythritol Tetranitrate (PETN) RDX Tetry	61 65 62 67 63 66 66 61 60 66 56 71 68 58 55	66 69 66 71 70 - 68 65 - 68 58 - 61 63	80.00-116.00 73.00-119.00 71.00-120.00 75.00-121.00 79.00-117.00 71.00-123.00 70.00-124.00 86.00-118.00 64.00-127.00 71.00-124.00 74.00-124.00 73.00-124.00 72.00-128.00 67.00-129.00 68.00-135.00	- - - - - - - - - - - - - - -	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLU 2-NITROTOLUENE 3,5-Dinitroaniline 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX NITROGLYCERIN Pentaerythritol Tetranitrate RDX Tetry	J(all detects) UJ(all non-detects)

Lab Control Spike/Lab Control Spike Duplicate Outlier Report

Lab Reporting Batch ID: K1606364

Laboratory: ALS_K

EDD Filename: K1606364_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 8330B

Matrix: Soil

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
KWG1605126-3 (FTBL-IS-071-060916 FTBL-IS-073-060916 FTBL-IS-074-060916-A FTBL-IS-074-060916-B FTBL-IS-074-060916-C FTBL-IS-075-060916 FTBL-IS-076-060916 FTBL-IS-077-060916-A FTBL-IS-077-060916-B FTBL-IS-077-060916-C)	2,4,6-TRINITROTOLUENE 2-NITROTOLUENE NITROBENZENE NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	6 6 2 0 0	- - - - -	71.00-120.00 70.00-124.00 67.00-129.00 73.00-124.00 72.00-128.00	- - - - -	2,4,6-TRINITROTOLUENE 2-NITROTOLUENE NITROBENZENE NITROGLYCERIN Pentaerythritol Tetranitrate (PETN)	J(all detects) R(all non-detects)
KWG1605126-3 KWG1605126-7 (FTBL-IS-071-060916 FTBL-IS-073-060916 FTBL-IS-074-060916-A FTBL-IS-074-060916-B FTBL-IS-074-060916-C FTBL-IS-075-060916 FTBL-IS-076-060916 FTBL-IS-077-060916-A FTBL-IS-077-060916-B FTBL-IS-077-060916-C)	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3,5-Dinitroaniline 3-NITROTOLUENE 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX RDX Tetryl	40 19 43 48 48 33 14 21 22 65 66 25	- - - - - - - - - - - -	80.00-116.00 73.00-119.00 75.00-121.00 79.00-117.00 71.00-123.00 86.00-118.00 67.00-129.00 64.00-127.00 71.00-124.00 74.00-124.00 67.00-129.00 68.00-135.00	- - - - - - - - - - - -	1,3,5-TRINITROBENZENE 1,3-DINITROBENZENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3,5-Dinitroaniline 3-NITROTOLUENE 4-Amino-2,6-Dinitrotoluene 4-NITROTOLUENE HMX RDX Tetryl	J(all detects) UJ(all non-detects)

Method: 8330B

Matrix: Water

QC Sample ID (Associated Samples)	Compound	LCS %R	LCSD %R	%R Limits	RPD (Limits)	Affected Compounds	Flag
KWG1604697-1 KWG1604697-2 (EB060916)	1,3-DINITROBENZENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3-NITROTOLUENE 4-NITROTOLUENE HMX NITROGLYCERIN	76 67 76 70 69 61 -	- - - - - - -	78.00-120.00 77.00-127.00 79.00-120.00 73.00-125.00 71.00-127.00 65.00-135.00 74.00-127.00	- 22 (20.00) - 24 (20.00) 21 (20.00) - 22 (20.00)	1,3-DINITROBENZENE 2,6-DINITROTOLUENE 2-AMINO-4,6-DINITROTOLUENE 3-NITROTOLUENE 4-NITROTOLUENE HMX NITROGLYCERIN	J (all detects) UJ (all non-detects)

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Field Triplicate RSD Report

Lab Reporting Batch ID: K1606364

Laboratory: ALS_K

EDD Filename: K1606364_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Soil

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	FTBL- IS-074-060916-A	FTBL- IS-074-060916-B	FTBL- IS-074-060916-C			
ARSENIC	6.92	6.74	6.54	2.82	20.00	No Qualifiers Applied
BERYLLIUM	0.963	0.965	0.935	1.76	20.00	
COPPER	23.0	22.8	21.8	2.85	20.00	
NICKEL	9.18	8.79	8.54	3.65	20.00	
ZINC	48.5	48.8	46.9	2.13	20.00	
ANTIMONY	0.361	0.470	0.920	50.77	20.00	J(all detects)

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	FTBL- IS-077-060916-	FTBL- IS-077-060916-	FTBL- IS-077-060916-			
LEAD	1070	552	1320	39.94	20.00	J(all detects)

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	FTBL- IS-077-060916-A	FTBL- IS-077-060916-B	FTBL- IS-077-060916-C			
ARSENIC	5.02	4.56	5.61	10.4	20.00	No Qualifiers Applied
BERYLLIUM	1.70	1.73	1.71	0.89	20.00	
COPPER	38.3	31.7	34.7	9.47	20.00	
NICKEL	7.76	7.68	7.89	1.36	20.00	
ZINC	67.0	66.3	66.3	0.61	20.00	
ANTIMONY	40.4	14.1	50.4	53.62	20.00	J(all detects)

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	FTBL- IS-074-060916-	FTBL- IS-074-060916-	FTBL- IS-074-060916-			
LEAD	63.6	89.1	146	42.37	20.00	J(all detects)

Method: 8330E

Matrix: Soil

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	FTBL- IS-074-060916-A	FTBL- IS-074-060916-B	FTBL- IS-074-060916-C			
1,3-DINITROBENZENE	0.015	0.041 U	0.041 U	NC	20.00	No Qualifiers Applied
2,6-DINITROTOLUENE	0.025	0.021 U	0.021 U	NC	20.00	
2-AMINO-4,6-DINITROTOLUENE	0.012	0.021 U	0.021 U	NC	20.00	
2-NITROTOLUENE	0.021	0.021 U	0.021 U	NC	20.00	
4-Amino-2,6-Dinitrotoluene	0.0080	0.021 U	0.021 U	NC	20.00	
HMX	0.0086	0.021 U	0.021 U	NC	20.00	
NITROBENZENE	0.0093	0.021 U	0.021 U	NC	20.00	

Analyte	Concentration (mg/Kg)			Sample RSD/RPD	eQAPP RSD/RPD	Flag
	FTBL- IS-077-060916-A	FTBL- IS-077-060916-B	FTBL- IS-077-060916-C			
2-NITROTOLUENE	0.014	0.021 U	0.021 U	NC	20.00	No Qualifiers Applied

* - RPD was calculated and compared against library RPD because only two samples among the triplicate set had detected results.
NC - (Not Calculated) is reported if only one sample among the triplicate set has a detected result.

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Reporting Limit Outliers

Lab Reporting Batch ID: K1606364

Laboratory: ALS_K

EDD Filename: K1606364_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 8330B

Matrix: Soil

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
FTBL-IS-074-060916-A	1,3-DINITROBENZENE	J	0.015	0.041	LOQ	mg/Kg	J (all detects)
	2,6-DINITROTOLUENE	JN	0.025	0.041	LOQ	mg/Kg	
	2-AMINO-4,6-DINITROTOLUENE	JP	0.012	0.041	LOQ	mg/Kg	
	2-NITROTOLUENE	JP	0.021	0.081	LOQ	mg/Kg	
	4-Amino-2,6-Dinitrotoluene	JN	0.0080	0.081	LOQ	mg/Kg	
	HMX	J	0.0086	0.041	LOQ	mg/Kg	
	NITROBENZENE	JP	0.0093	0.081	LOQ	mg/Kg	
FTBL-IS-077-060916-A	2-NITROTOLUENE	JN	0.014	0.081	LOQ	mg/Kg	J (all detects)

Method: 6020A

Matrix: Water

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB060916	LEAD	J	0.015	0.020	LOQ	ug/L	J (all detects)
	ZINC	J	0.3	0.5	LOQ	ug/L	

Method: 8330B

Matrix: Water

SampleID	Analyte	Lab Qual	Result	Reporting Limit	RL Type	Units	Flag
EB060916	HMX	JN	0.038	0.10	LOQ	ug/L	J (all detects)

LDC #: 36840B4a
 SDG #: K1606364
 Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 8/16
 Page: 1 of 1

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=11
VII.	Matrix Spike/Matrix Spike Duplicates	SW	Not reviewed for Level III validation. (12/13: show, B in)
VIII.	Duplicate sample analysis	N	Not reviewed for Level III validation.
IX.	Serial Dilution	D	
X.	Laboratory control samples	A	Not reviewed for Level III validation. LES
XI.	Field Duplicates	N	Not reviewed for Level III validation.
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	A	Not reviewed for Level III validation.
XIV.	Overall Assessment of Data	A	Not reviewed for Level III validation.

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-077-060916-A**	K1606364-001**	Soil	06/09/16
2	FTBL-IS-077-060916-B**	K1606364-002**	Soil	06/09/16
3	FTBL-IS-077-060916-C**	K1606364-003**	Soil	06/09/16
4	FTBL-IS-074-060916-A**	K1606364-004**	Soil	06/09/16
5	FTBL-IS-074-060916-B**	K1606364-005**	Soil	06/09/16
6	FTBL-IS-074-060916-C**	K1606364-006**	Soil	06/09/16
7	FTBL-IS-073-060916**	K1606364-007**	Soil	06/09/16
8	FTBL-IS-075-060916**	K1606364-008**	Soil	06/09/16
9	FTBL-IS-071-060916**	K1606364-009**	Soil	06/09/16
10	FTBL-IS-076-060916**	K1606364-010**	Soil	06/09/16
11	EB060916	K1606364-011	Water	06/09/16
12	FTBL-IS-077-060916-AMS	K1606364-001MS	Soil	06/09/16
13	FTBL-IS-077-060916-AMSD	K1606364-001MSD	Soil	06/09/16
14				
15				

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

(b) (6)

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: 100x x 5x dilution

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: 1-4

				Sample Identification										
Analyte	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	No qualifiers (>5x)										
Be		0.020	0.05											

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: 5-10

				Sample Identification										
Analyte	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	No qualifiers (>5x)										
Be		0.011	0.0275											

Sample Concentration units, unless otherwise noted: ug/L

Associated Samples: All water

				Sample Identification										
Analyte	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	11										
Sb		0.007	0.035											
Pb		0.005	0.025	0.015										
Ni		0.06	0.3	0.22										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

(b) (6)

METHOD: HPLC Explosives (EPA SW 846 Method 8330)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	Initial calibration/ICV	A/A	
III.	Continuing calibration	A	
IV.	Laboratory Blanks	N	Not reviewed for Level III validation.
V.	Field blanks		
VI.	Surrogate spikes		Not reviewed for Level III validation.
VII.	Matrix spike/Matrix spike duplicates		Not reviewed for Level III validation.
VIII.	Laboratory control samples		Not reviewed for Level III validation.
IX.	Field duplicates		
X.	Compound quantitation RL/LOQ/LODs	SW	Not reviewed for Level III validation.
XI.	Target compound identification	IV	Not reviewed for Level III validation.
XII.	Overall assessment of data		Not reviewed for Level III validation.

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-077-060916-A**	K1606364-001**	Soil	06/09/16
2	FTBL-IS-077-060916-B**	K1606364-002**	Soil	06/09/16
3	FTBL-IS-077-060916-C**	K1606364-003**	Soil	06/09/16
4	FTBL-IS-074-060916-A**	K1606364-004**	Soil	06/09/16
5	FTBL-IS-074-060916-B**	K1606364-005**	Soil	06/09/16
6	FTBL-IS-074-060916-C**	K1606364-006**	Soil	06/09/16
7	FTBL-IS-073-060916**	K1606364-007**	Soil	06/09/16
8	FTBL-IS-075-060916**	K1606364-008**	Soil	06/09/16
9	FTBL-IS-071-060916**	K1606364-009**	Soil	06/09/16
10	FTBL-IS-076-060916**	K1606364-010**	Soil	06/09/16
11	EB060916	K1606364-011	Water	06/09/16
12	FTBL-IS-077-060916-AMS	K1606364-001MS	Soil	06/09/16
13	FTBL-IS-077-060916-AMSD	K1606364-001MSD	Soil	06/09/16
14	FTBL-IS-077-060916-ADUP	K1606364-001DUP	Soil	06/09/16
15	FTBL-IS-077-060916-ATRP	K1606364-001TRP	Soil	06/09/16
16				
17				

VALIDATION FINDINGS WORKSHEET

METHOD: GC HPLC

8310	8330	8151	8141	8141(Con't)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethylbenzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. o-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. m,p-Xylenes
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total xylenes
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotepp	BB. Famphur	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Phosmet	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	Krone
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	A. Tetra-n-butyltin
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Tetrachlorvinphos	B. Tri-n-butyltin Cation
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Sulprofos	C. Di-n-butyltin Cation
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		D. N-Butyltin Cation
P. Pyrene	P. 3,5-Dinitroaniline		P. Fenthion		
Q.	Q. Pentaerythritol Tetranitrate		Q. Parathion-ethyl		
R.	R.		R. Trichloronate		
S.			S. Merphos		
			T. Stirophos		
			U. Tokuthion		

Notes: _____

Quality Control Outlier Reports

K1606639

LDC #: 36810C4aSDG #: K1606639Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET

ADR

Date: 8/8/16

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/N	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	ICB/CCB only
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	N	
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	A	
X.	Laboratory control samples	N	
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	N	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

Samples appended with "F" were analyzed as dissolved.

	Client ID	Lab ID	Matrix	Date
1	FTBL-SP-03-061516	K1606639-001	Water	06/15/16
2	FTBL-SP-03-061516F	K1606639-001F	Water	06/15/16
3	FTBL-SP-03-061516MS	K1606639-001MS	Water	06/15/16
4	FTBL-SP-03-061516MSD	K1606639-001MSD	Water	06/15/16
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

All circled elements are applicable to each sample.

[illegible]

Comments: Mercury by CVAA if performed

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: _____

(b) (6)

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: All

				Sample Identification										
Analyte	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	No qualifiers (>5x)										
Sb		0.015	0.075											
Pb		0.007	0.035											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

Enclosure II

Level IV Data Validation Reports

Laboratory Data Consultants, Inc.
Data Validation Report**Project/Site Name:** Fort Bliss, Castner Range**LDC Report Date:** August 19, 2016**Parameters:** Metals**Validation Level:** Level IV**Laboratory:** ALS Environmental**Sample Delivery Group (SDG):** K1606364

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
FTBL-IS-077-060916-A	K1606364-001	Soil	06/09/16
FTBL-IS-077-060916-B	K1606364-002	Soil	06/09/16
FTBL-IS-077-060916-C	K1606364-003	Soil	06/09/16
FTBL-IS-074-060916-A	K1606364-004	Soil	06/09/16
FTBL-IS-074-060916-B	K1606364-005	Soil	06/09/16
FTBL-IS-074-060916-C	K1606364-006	Soil	06/09/16
FTBL-IS-073-060916	K1606364-007	Soil	06/09/16
FTBL-IS-075-060916	K1606364-008	Soil	06/09/16
FTBL-IS-071-060916	K1606364-009	Soil	06/09/16
FTBL-IS-076-060916	K1606364-010	Soil	06/09/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Quality Assurance Project Plan, Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas (February 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Inorganic Superfund Data Review (October 2004). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Antimony, Arsenic, Beryllium, Copper, Lead, Nickel, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6020A

All sample results were subjected to Level IV evaluation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Lead	0.05 mg/Kg	All soil samples in SDG K1606364
ICB/CCB	Beryllium	0.020 ug/L	FTBL-IS-077-060916-A FTBL-IS-077-060916-B FTBL-IS-077-060916-C FTBL-IS-074-060916-A
ICB/CCB	Beryllium	0.011 ug/L	FTBL-IS-074-060916-B FTBL-IS-074-060916-C FTBL-IS-073-060916 FTBL-IS-075-060916 FTBL-IS-071-060916 FTBL-IS-076-060916

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

VI. Field Blanks

Sample EB060916 was identified as a rinsate. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
EB060916	06/09/16	Copper Lead Nickel Zinc	0.10 ug/L 0.015 ug/L 0.22 ug/L 0.3 ug/L	All soil samples in SDG K1606364

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. For FTBL-IS-077-060916-AMS/MSD, no data were qualified for Lead percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
FTBL-IS-077-060916-AMS/MSD (FTBL-IS-077-060916-A)	Lead	39.2 (≤20)	J (all detects)	A

VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. The percent differences (%D) were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Triplicates

Samples FTBL-IS-077-060916-A, FTBL-IS-077-060916-B, and FTBL-IS-077-060916-C and samples FTBL-IS-074-060916-A, FTBL-IS-074-060916-B, and FTBL-IS-074-060916-C were identified as field triplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)			%RSD (Limits)	Flag	A or P
	FTBL-IS-077-060916-A	FTBL-IS-077-060916-B	FTBL-IS-077-060916-C			
Antimony	40.4	14.1	50.4	54 (≤20)	J (all detects)	A
Arsenic	5.02	4.56	5.61	10 (≤20)	-	-
Beryllium	1.70	1.73	1.71	1 (≤20)	-	-
Copper	38.3	31.7	34.7	9 (≤20)	-	-
Lead	1070	552	1320	40 (≤20)	J (all detects)	A
Nickel	7.76	7.68	7.89	1 (≤20)	-	-
Zinc	67.0	66.3	66.3	1 (≤20)	-	-

Analyte	Concentration (mg/Kg)			%RSD (Limits)	Flag	A or P
	FTBL-IS-074-060916-A	FTBL-IS-074-060916-B	FTBL-IS-074-060916-C			
Antimony	0.361	0.470	0.920	51 (≤20)	J (all detects)	A
Arsenic	6.92	6.74	6.54	3 (≤20)	-	-
Beryllium	0.963	0.965	0.935	2 (≤20)	-	-
Copper	23.0	22.8	21.8	3 (≤20)	-	-
Lead	63.6	89.1	146	42 (≤20)	J (all detects)	A
Nickel	9.18	8.79	8.54	4 (≤20)	-	-
Zinc	48.5	48.8	46.9	2 (≤20)	-	-

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits.

XIII. Sample Result Verification

All sample result verifications were acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD RPD and field triplicate %RSD, data were qualified as estimated in six samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

**Fort Bliss, Castner Range
Metals - Data Qualification Summary - SDG K1606364**

Sample	Analyte	Flag	A or P	Reason
FTBL-IS-077-060916-A	Lead	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
FTBL-IS-077-060916-A FTBL-IS-077-060916-B FTBL-IS-077-060916-C FTBL-IS-074-060916-A FTBL-IS-074-060916-B FTBL-IS-074-060916-C	Antimony Lead	J (all detects) J (all detects)	A	Field triplicates (%RSD)

**Fort Bliss, Castner Range
Metals - Laboratory Blank Data Qualification Summary - SDG K1606364**

No Sample Data Qualified in this SDG

**Fort Bliss, Castner Range
Metals - Field Blank Data Qualification Summary - SDG K1606364**

No Sample Data Qualified in this SDG

LDC #: 36810B4aSDG #: K1606364Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET

ADR/IV

Date: 8/16

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	
VI.	Field Blanks	SW	EB=11
VII.	Matrix Spike/Matrix Spike Duplicates	SW	Not reviewed for Level III validation. ADR
VIII.	Duplicate sample analysis	N	Not reviewed for Level III validation. ADR
IX.	Serial Dilution	A	
X.	Laboratory control samples	A	Not reviewed for Level III validation. ADR
XI.	Field Duplicates	SW	Not reviewed for Level III validation. ADR
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	A	Not reviewed for Level III validation. ADR
XIV.	Overall Assessment of Data	A	Not reviewed for Level III validation. ADR

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-077-060916-A**	K1606364-001**	Soil	06/09/16
2	FTBL-IS-077-060916-B**	K1606364-002**	Soil	06/09/16
3	FTBL-IS-077-060916-C**	K1606364-003**	Soil	06/09/16
4	FTBL-IS-074-060916-A**	K1606364-004**	Soil	06/09/16
5	FTBL-IS-074-060916-B**	K1606364-005**	Soil	06/09/16
6	FTBL-IS-074-060916-C**	K1606364-006**	Soil	06/09/16
7	FTBL-IS-073-060916**	K1606364-007**	Soil	06/09/16
8	FTBL-IS-075-060916**	K1606364-008**	Soil	06/09/16
9	FTBL-IS-071-060916**	K1606364-009**	Soil	06/09/16
10	FTBL-IS-076-060916**	K1606364-010**	Soil	06/09/16
11	EB060916	K1606364-011	Water	06/09/16
12	FTBL-IS-077-060916-AMS	K1606364-001MS	Soil	06/09/16
13	FTBL-IS-077-060916-AMSD	K1606364-001MSD	Soil	06/09/16
14				
15				

Method: Metals (EPA SW 846 Method 6010/6020/7000)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were the low standard checks within 70-130%	✓			
Were all initial calibration correlation coefficients within limits as specified by the method?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm RL(\pm 2X RL \text{ for soil})$ was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.		✓		
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	✓			
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL (ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.			✓	
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			Based on net weight
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

(b) (6)

(b) (6)

Comments: Mercury by CVAA if performed

LDC #: ⁴⁰⁰36810B4a

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

(b) (6)

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)

Soil preparation factor applied: 100x x 5xdilution

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: All Soil

				Sample Identification										
Analyte	Maximum PB ^a (mg/Kg)	Maximum ICB/CCB ^a (ug/L)	Action Level	No qualifiers (>5x)										
Pb	0.05													

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: 1-4

				Sample Identification										
Analyte	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	No qualifiers (>5x)										
Be		0.020	0.05											

Sample Concentration units, unless otherwise noted: mg/Kg

Associated Samples: 5-10

				Sample Identification										
Analyte	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Action Level	No qualifiers (>5x)										
Be		0.011	0.0275											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Field Blanks

(b) (6)

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: ug/L **Associated sample units:** mg/Kg

Sampling date: 6/9/16

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____ All Soil

[illegible]

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

<input checked="" type="radio"/> Y	<input type="radio"/> N	<input type="radio"/> N/A	Was a matrix spike analyzed for each matrix in this SDG?
<input type="radio"/> Y	<input checked="" type="radio"/> N	<input type="radio"/> N/A	Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.
<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	<input type="radio"/> N/A	Were all duplicate sample relative percent differences (RPD) $\leq 20\%$ for samples?
LEVEL IV ONLY:			
<input checked="" type="radio"/> Y	<input type="radio"/> N	<input type="radio"/> N/A	Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

Comments:

LDC#: 36840D4a

VALIDATION FINDINGS WORKSHEET **Field Triplicates**

Page: 1 of 1

(b) (6)

METHOD: Metals (EPA Method 6010B/7000)

Analyte	Concentration (mg/Kg)			RSD (≤20)	Qualifiers
	1	2	3		
Antimony	40.4	14.1	50.4	54	Jdet/A
Arsenic	5.02	4.56	5.61	10	
Beryllium	1.70	1.73	1.71	1	
Copper	38.3	31.7	34.7	9	
Lead	1070	552	1320	40	Jdet/A
Nickel	7.76	7.68	7.89	1	
Zinc	67.0	66.3	66.3	1	

Analyte	Concentration (mg/Kg)			RSD (≤20)	Qualifiers
	4	5	6		
Antimony	0.361	0.470	0.920	51	Jdet/A
Arsenic	6.92	6.74	6.54	3	
Beryllium	0.963	0.965	0.935	2	
Copper	23.0	22.8	21.8	3	
Lead	63.6	89.1	146	42	Jdet/A
Nickel	9.18	8.79	8.54	4	
Zinc	48.5	48.8	46.9	2	

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LDC #: ^{40D}~~3081005~~

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

(b) (6)

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated	Reported	Acceptable (Y/N)
					%R	%R	
	ICP (Initial calibration)						
ICV(1706)	ICP/MS (Initial calibration)	Be	2.618	2.5	105	104	Y
	CVAA (Initial calibration)						
	ICP (Continuing calibration)						
CCV(1228)	ICP/MS (Continuing calibration)	Ni	24,906	250	100	100	Y
	CVAA (Continuing calibration)						

Comments:

LDC #: ⁴⁰⁰~~3681004~~

VALIDATION FINDINGS WORKSHEET Level IV Recalculation Worksheet

(b) (6)

METHOD: Trace metals (EPA CLP SOW ISM01.2)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (ug/L)
SDR = Serial Dilution Result (ug/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
ICSA13(m:46)	ICP interference check	As	25.165	25.0	101	101	Y
LCS	Laboratory control sample	Zn	1056.78	1000	106	106	Y
12	Matrix spike	Be	(SSR-SR) 9.78	10.0	98	98	Y
12/B	Duplicate	Cu	85.11	86.51	1.6	1.6	Y
1	ICP serial dilution	ph _{ug/L}	213.717	216.685	1.4	1.4	Y

Comments: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Fort Bliss, Castner Range

LDC Report Date: August 19, 2016

Parameters: Explosives

Validation Level: Level IV

Laboratory: ALS Environmental

Sample Delivery Group (SDG): K1606364

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
FTBL-IS-077-060916-A	K1606364-001	Soil	06/09/16
FTBL-IS-077-060916-B	K1606364-002	Soil	06/09/16
FTBL-IS-077-060916-C	K1606364-003	Soil	06/09/16
FTBL-IS-074-060916-A	K1606364-004	Soil	06/09/16
FTBL-IS-074-060916-B	K1606364-005	Soil	06/09/16
FTBL-IS-074-060916-C	K1606364-006	Soil	06/09/16
FTBL-IS-073-060916	K1606364-007	Soil	06/09/16
FTBL-IS-075-060916	K1606364-008	Soil	06/09/16
FTBL-IS-071-060916	K1606364-009	Soil	06/09/16
FTBL-IS-076-060916	K1606364-010	Soil	06/09/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Quality Assurance Project Plan, Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas (February 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Superfund Organic Methods Data Review (October 1999). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Explosives by Environmental Protection Agency (EPA) SW 846 Method 8330

All sample results were subjected to Level IV data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average calibration factors were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

Retention time windows were established as required by the method.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Extraction Date	Compound	Concentration	Associated Samples
KWG1605126-8	06/23/16	3-Nitrotoluene	0.056 mg/Kg	All samples in SDG K1606364

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

Sample EB060916 was identified as a rinsate. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
EB060916	06/09/16	HMX	0.38 ug/L	All samples in SDG K1606364

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
FTBL-IS-077-060916-AMS/MSD (FTBL-IS-077-060916-A)	HMX	56 (74-124)	58 (74-124)	J (all detects) UJ (all non-detects)	A
	RDX	58 (67-129)	61 (67-129)		
	1,3,5-Trinitrobenzene	61 (80-116)	66 (80-116)		
	1,3-Dinitrobenzene	65 (73-119)	69 (73-119)		
	3,5-Dinitroaniline	61 (86-118)	65 (86-118)		
	Tetryl	55 (68-135)	63 (68-135)		
	4-Amino-2,6-dinitrotoluene	60 (64-127)	-		
	2-Amino-4,6-dinitrotoluene	66 (71-123)	-		
	2,4,6-Trinitrotoluene	62 (71-120)	66 (71-120)		
	2,6-Dinitrotoluene	63 (79-117)	70 (79-117)		
	2,4-Dinitrotoluene	67 (75-121)	71 (75-121)		
	2-Nitrotoluene	66 (70-124)	68 (70-124)		
	4-Nitrotoluene	66 (71-124)	68 (71-124)		
	Nitroglycerin	71 (73-124)	-		
	Pentaerythritol tetranitrate	68 (72-128)	-		

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples/Standard Reference Materials

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
KWG1605126-7	3,5-Dinitroaniline	82 (86-118)	All samples in SDG K1606364	UJ (all non-detects)	P

Standard reference materials (SRM) were analyzed as required by the method. The results were within QC limits with the following exceptions:

SRM ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
KWG1605126-3	HMX RDX 1,3,5-Trinitrobenzene 1,3-Dinitrobenzene 3,5-Dinitroaniline Tetryl 4-Amino-2,6-dinitrotoluene 2-Amino-4,6-dinitrotoluene 2,6-Dinitrotoluene 2,4-Dinitrotoluene 4-Nitrotoluene 3-Nitrotoluene	65 (74-124) 66 (67-129) 40 (80-116) 19 (73-119) 33 (86-118) 25 (68-135) 21 (64-127) 48 (71-123) 48 (79-117) 43 (75-121) 22 (71-124) 14 (67-129)	All samples in SDG K1606364	J (all detects) UJ (all non-detects)	P
KWG1605126-3	Nitrobenzene 2,4,6-Trinitrotoluene Nitroglycerine Pentaerythritol tetranitrate 2-Nitrotoluene	2 (67-129) 6 (71-120) 0 (73-124) 0 (72-128) 6 (79-117)	All samples in SDG K1606364	R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects)	P

IX. Field Triplicates

Samples FTBL-IS-077-060916-A, FTBL-IS-077-060916-B, and FTBL-IS-077-060916-C and samples FTBL-IS-074-060916-A, FTBL-IS-074-060916-B, FTBL-IS-074-060916-C were identified as field triplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/Kg)			%RSD (Limits)	Flag	A or P
	FTBL-IS-077-060916-A	FTBL-IS-077-060916-B	FTBL-IS-077-060916-C			
2-Nitrotoluene	0.014	0.021U	0.021U	22 (≤20)	NQ	-

Compound	Concentration (mg/Kg)			%RSD (Limits)	Flag	A or P
	FTBL-IS-074-060916-A	FTBL-IS-074-060916-B	FTBL-IS-074-060916-C			
HMX	0.0086	0.021U	0.021U	42 (≤20)	NQ	-
1,3-Dinitrobenzene	0.015	0.041U	0.041U	46 (≤20)	NQ	-

Compound	Concentration (mg/Kg)			%RSD (Limits)	Flag	A or P
	FTBL-IS-074-060916-A	FTBL-IS-074-060916-B	FTBL-IS-074-060916-C			
Nitrobenzene	0.0093	0.021U	0.021U	40 (≤20)	NQ	-
4-Amino-2,6-dinitrotoluene	0.0080	0.021U	0.021U	45 (≤20)	NQ	-
2-Amino-4,6-dinitrotoluene	0.012	0.021U	0.021U	29 (≤20)	NQ	-
2,6-Dinitrotoluene	0.025	0.021U	0.021U	10 (≤20)	NQ	-
2-Nitrotoluene	0.021	0.021U	0.021U	0 (≤20)	NQ	-

NQ = One or more results were less than 5x the limit of quantitation (LOQ), therefore no data were qualified.

X. Compound Quantitation

All compound quantitations met validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
FTBL-IS-077-060916-A	2-Nitrotoluene	2nd column confirmation was not performed for this compound.	This compound must be confirmed on the 2nd column per the method.	NJ (all detects)	A
FTBL-IS-074-060916-A	2,6-Dinitrotoluene	2nd column confirmation was not performed for this compound.	This compound must be confirmed on the 2nd column per the method.	NJ (all detects)	A

The sample results for detected compounds from the two columns were within 40% relative percent difference (RPD) with the following exceptions:

Sample	Compound	RPD	Flag	A or P
FTBL-IS-074-060916-A	Nitrobenzene 2-Amino-4,6-dinitrotoluene 2-Nitrotoluene	63.7 125.0 54.5	J (all detects) J (all detects) J (all detects)	A

XI. Target Compound Identifications

All target compound identifications met validation criteria.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

Due to SRM %R, data were rejected in ten samples.

Due to MS/MSD %R, LCS %R, SRM %R, no confirmation, and RPD between two columns, data were qualified as estimated in ten samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Fort Bliss, Castner Range
Explosives - Data Qualification Summary - SDG K1606364

Sample	Compound	Flag	A or P	Reason
FTBL-IS-077-060916-A	HMX RDX 1,3,5-Trinitrobenzene 1,3-Dinitrobenzene 3,5-Dinitroaniline Tetryl 4-Amino-2,6-dinitrotoluene 2-Amino-4,6-dinitrotoluene 2,4,6-Trinitrotoluene 2,6-Dinitrotoluene 2,4-Dinitrotoluene 2-Nitrotoluene 4-Nitrotoluene Nitroglycerin Pentaerythritol tetranitrate	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
FTBL-IS-077-060916-A FTBL-IS-077-060916-B FTBL-IS-077-060916-C FTBL-IS-074-060916-A FTBL-IS-074-060916-B FTBL-IS-074-060916-C FTBL-IS-073-060916 FTBL-IS-075-060916 FTBL-IS-071-060916 FTBL-IS-076-060916	3,5-Dinitroaniline	UJ (all non-detects)	P	Laboratory control samples (%R)
FTBL-IS-077-060916-A FTBL-IS-077-060916-B FTBL-IS-077-060916-C FTBL-IS-074-060916-A FTBL-IS-074-060916-B FTBL-IS-074-060916-C FTBL-IS-073-060916 FTBL-IS-075-060916 FTBL-IS-071-060916 FTBL-IS-076-060916	HMX RDX 1,3,5-Trinitrobenzene 1,3-Dinitrobenzene 3,5-Dinitroaniline Tetryl 4-Amino-2,6-dinitrotoluene 2-Amino-4,6-dinitrotoluene 2,6-Dinitrotoluene 2,4-Dinitrotoluene 4-Nitrotoluene 3-Nitrotoluene	J (all detects) UJ (all non-detects)	P	Standard reference materials (%R)
FTBL-IS-077-060916-A FTBL-IS-077-060916-B FTBL-IS-077-060916-C FTBL-IS-074-060916-A FTBL-IS-074-060916-B FTBL-IS-074-060916-C FTBL-IS-073-060916 FTBL-IS-075-060916 FTBL-IS-071-060916 FTBL-IS-076-060916	Nitrobenzene 2,4,6-Trinitrotoluene Nitroglycerine Pentaerythritol tetranitrate 2-Nitrotoluene	R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects)	P	Standard reference materials (%R)
FTBL-IS-077-060916-A	2-Nitrotoluene	NJ (all detects)	A	Compound quantitation (no confirmation)
FTBL-IS-074-060916-A	2,6-Dinitrotoluene	NJ (all detects)	A	Compound quantitation (no confirmation)

Sample	Compound	Flag	A or P	Reason
FTBL-IS-074-060916-A	Nitrobenzene 2-Amino-4,6-dinitrotoluene 2-Nitrotoluene	J (all detects) J (all detects) J (all detects)	A	Compound quantitation (RPD between two columns)

Fort Bliss, Castner Range

Explosives - Laboratory Blank Data Qualification Summary - SDG K1606364

No Sample Data Qualified in this SDG

Fort Bliss, Castner Range

Explosives - Field Blank Data Qualification Summary - SDG K1606364

No Sample Data Qualified in this SDG

LDC #: 36840P40

VALIDATION COMPLETENESS WORKSHEET

Date: 8/10/16

SDG #: K1606364

ADR/IV

Laboratory: ALS Environmental

(b) (6)

METHOD: HPLC Explosives (EPA SW 846 Method 8330)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	Initial calibration/ICV	A, A	RSD ≤ 15%, γ^2 100% ≤ 200%
III.	Continuing calibration	A	CCV ≤ 200%
IV.	Laboratory Blanks	W	Not reviewed for Level III validation.
V.	Field blanks	W	EB = 11
VI.	Surrogate spikes	A	Not reviewed for Level III validation.
VII.	Matrix spike/Matrix spike duplicates	W	Not reviewed for Level III validation.
VIII.	Laboratory control samples	W	Not reviewed for Level III validation. LCS / SRM
IX.	Field duplicates	W	TP = 1 + 2 + 3, 4 + 5 + 6
X.	Compound quantitation RL/LOQ/LODs	W	Not reviewed for Level III validation.
XI.	Target compound identification	A	Not reviewed for Level III validation.
XII.	Overall assessment of data	A	Not reviewed for Level III validation.

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB = Source blank
OTHER:

** Indicates sample underwent Level IV validation

	Client ID	Lab ID	Matrix	Date
1	FTBL-IS-077-060916-A**	K1606364-001**	Soil	06/09/16
2	FTBL-IS-077-060916-B**	K1606364-002**	Soil	06/09/16
3	FTBL-IS-077-060916-C**	K1606364-003**	Soil	06/09/16
4	FTBL-IS-074-060916-A**	K1606364-004**	Soil	06/09/16
5	FTBL-IS-074-060916-B**	K1606364-005**	Soil	06/09/16
6	FTBL-IS-074-060916-C**	K1606364-006**	Soil	06/09/16
7	FTBL-IS-073-060916**	K1606364-007**	Soil	06/09/16
8	FTBL-IS-075-060916**	K1606364-008**	Soil	06/09/16
9	FTBL-IS-071-060916**	K1606364-009**	Soil	06/09/16
10	FTBL-IS-076-060916**	K1606364-010**	Soil	06/09/16
11	EB060916	K1606364-011	Water	06/09/16
12	FTBL-IS-077-060916-AMS	K1606364-001MS	Soil	06/09/16
13	FTBL-IS-077-060916-AMSD	K1606364-001MSD	Soil	06/09/16
14	FTBL-IS-077-060916-ADUP	K1606364-001DUP	Soil	06/09/16
15	FTBL-IS-077-060916-ATRP	K1606364-001TRP	Soil	06/09/16
16				
17				

Method: GC ✓ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	<input checked="" type="checkbox"/>			
Was cooler temperature criteria met?	<input checked="" type="checkbox"/>			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>			
Were all percent relative standard deviations (%RSD) < 20%? <u>1.570</u> ?	<input checked="" type="checkbox"/>			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990 ?	<input checked="" type="checkbox"/>			
Were the RT windows properly established?	<input checked="" type="checkbox"/>			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	<input checked="" type="checkbox"/>			
Were all percent differences (%D) < 20% or percent recoveries (%R) 80-120%?	<input checked="" type="checkbox"/>			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	<input checked="" type="checkbox"/>			
Were all percent differences (%D) < 20% or percent recoveries (%R) 80-120%?	<input checked="" type="checkbox"/>			
Were all the retention times within the acceptance windows?	<input checked="" type="checkbox"/>			
IV. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>			
Was a laboratory blank analyzed for each matrix and concentration?	<input checked="" type="checkbox"/>			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.	<input checked="" type="checkbox"/>			
V. Field Blanks				
Were field blanks identified in this SDG?	<input checked="" type="checkbox"/>			
Were target compounds detected in the field blanks?	<input checked="" type="checkbox"/>			
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	<input checked="" type="checkbox"/>			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			<input checked="" type="checkbox"/>	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			<input checked="" type="checkbox"/>	
VII. Matrix spike/matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	<input checked="" type="checkbox"/>			
Was a MS/MSD analyzed every 20 samples of each matrix?	<input checked="" type="checkbox"/>			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		<input checked="" type="checkbox"/>		

LDC #: 36810840

VALIDATION FINDINGS CHECKLIST

(b) (6)

Validation Area	Yes	No	NA	Findings/Comments
III. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		/		
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	/			
Were target compounds detected in the field duplicates?	/			
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	/			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			

VALIDATION FINDINGS WORKSHEET

METHOD: ____GC ____HPLC

8310	8330	8151	8141	8141(Con't)	8021B
A. Acenaphthene	A. HMX	A. 2,4-D	A. Dichlorvos	V. Fensulfothion	V. Benzene
B. Acenaphthylene	B. RDX	B. 2,4-DB	B. Mevinphos	W. Bolstar	CC. Toluene
C. Anthracene	C. 1,3,5-Trinitrobenzene	C. 2,4,5-T	C. Demeton-O	X. EPN	EE. Ethylbenzene
D. Benzo(a)anthracene	D. 1,3-Dinitrobenzene	D. 2,4,5-TP	D. Demeton-S	Y. Azinphos-methyl	SSS. o-Xylene
E. Benzo(a)pyrene	E. Tetryl	E. Dinoseb	E. Ethoprop	Z. Coumaphos	RRR. m,p-Xylenes
F. Benzo(b)fluoranthene	F. Nitrobenzene	F. Dichlorprop	F. Naled	AA. Parathion	GG. Total xylenes
G. Benzo(g,h,i)perylene	G. 2,4,6-Trinitrotoluene	G. Dicamba	G. Sulfotepp	BB. Famphur	
H. Benzo(k)fluoranthene	H. 4-Amino-2,6-dinitrotoluene	H. Dalapon	H. Phorate	CC. Phosmet	
I. Chrysene	I. 2-Amino-4,6-dinitrotoluene	I. MCPP	I. Dimethoate	DD. Trifluralin	
J. Dibenz(a,h)anthracene	J. 2,4-Dinitrotoluene	J. MCPA	J. Diazinon	EE. Def	
K. Fluoranthene	K. 2,6-Dinitrotoluene	K. Pentachlorophenol	K. Disulfoton	FF. Prowl	Krone
L. Fluorene	L. 2-Nitrotoluene	L. 2,4,5-TP (silvex)	L. Parathion-methyl	GG. Ethion	A. Tetra-n-butyltin
M. Indeno(1,2,3-cd)pyrene	M. 3-Nitrotoluene	M. Silvex	M. Ronnel	HH. Tetrachlorvinphos	B. Tri-n-butyltin Cation
N. Naphthalene	N. 4-Nitrotoluene		N. Malathion	II. Sulprofos	C. Di-n-butyltin Cation
O. Phenanthrene	O. Nitroglycerin		O. Chlorpyrifos		D. N-Butyltin Cation
P. Pyrene	P. 3,5-Dinitroaniline		P. Fenthion		
Q.	Q. Pentaerythritol Tetranitrate		Q. Parathion-ethyl		
R.	R.		R. Trichloronate		
S.			S. Merphos		
			T. Stirophos		
			U. Tokuthion		

Notes:

VALIDATION FINDINGS WORKSHEET

Blanks

(b) (6)

METHOD: ✓ GC-MS/MS

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- ☒ Y ☐ N ☐ N/A Were all samples associated with a given method blank?
- ☒ Y ☐ N ☐ N/A Was a method blank performed for each matrix and whenever a sample extraction procedure was performed?
- ☒ Y ☐ N ☐ N/A Was a method blank performed with each extraction batch?
- ☒ Y ☐ N ☐ N/A Were any contaminants found in the method blanks? If yes, please see findings below.

Blank extraction date: 6/23/16 Blank analysis date: 7/17/16Conc. units: mg/LAssociated samples: all soils

Compound	Blank ID	Sample Identification							
<u>M</u>	<u>0.056</u>	<u>KN151605726-8</u>							

Blank extraction date: _____ Blank analysis date: _____

Associated samples: _____

Conc. units: _____

Compound	Blank ID	Sample Identification							

ALL CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:

All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 36810040

VALIDATION FINDINGS WORKSHEET Field Blanks

Page: / of /
(b) (6)

METHOD: GC HP LC

☒ N N/A Field blanks were identified in this SDG.
☒ N N/A Were target compounds detected in the field blanks?

Blank units: 100 Associated sample units: _____

Sampling date: 6/9/16

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: All soils

Compound	Blank ID	Sample Identification							
	<u>11</u>								
<u>HMX</u>	<u>0.38</u>								

Blank units: _____ Associated sample units: _____

Sampling date: _____

Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: _____

Compound	Blank ID	Sample Identification							

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Y	N	N/A	Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
Y	N	N/A	Were an MS/MSD analyzed for every 20 samples for each matrix or whenever a sample extraction was performed?
Y	N	N/A	Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

019295

LDC #: ^{40 D} ~~32810P~~ 40VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

(b) (6)

METHOD: GC ☒ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

☒ N N/A Were a laboratory control samples (LCS) and laboratory control sample duplicate (LCSD) analyzed for each matrix in this SDG?☒ N N/A Were the LCS percent recoveries (%R) and relative percent differences (RPD) within the QC limits?

Level IV/D Only

☒ N N/A Was an LCS analyzed every 20 samples for each matrix or whenever a sample extraction was performed?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Qualifications
	KW#1605126-3	A	65 (74-124)	()	()	All soils	Y/N/P
	(SRM)	B	66 (67-129)	()	()	(det + N/D)	Y/N/P
		C	40 (80-116)	()	()		
		D	19 (73-119)	()	()		
		E	33 (86-118)	()	()		
		F	25 (68-125)	()	()		
		H	21 (64-127)	()	()		
		I	48 (71-123)	()	()		
		K	48 (79-117)	()	()		
		J	43 (75-121)	()	()		
		N	22 (71-124)	()	()		
		M	12 (67-129)	()	()		
		F	2 (67-129)	()	()	(N/D)	Y/N/P
		G	6 (71-120)	()	()		
		O	0 (73-124)	()	()		
		R	0 (72-128)	()	()		
		L	6 (77-117)	()	()		Y/N/P
			()	()	()		
	KW#1605126-7	P	82 (86-118)	()	()	All soils (N/D)	Y/N/P
			()	()	()		
			()	()	()		
			()	()	()		
			()	()	()		
			()	()	()		

LDC#: ⁴⁰⁰~~36810B40~~**VALIDATION FINDINGS WORKSHEET** (b) (6)
Field Triplicates**METHOD:** Explosives (EPA SW846 Method 8330B)Y N NA
Y N NA

Were lab triplicates sets identified in this SDG?

Were target analytes detected in the field triplicate sets?

Compound	Concentration (mg/kg)			RSD (≤20%)	Qual
	1	2	3		
L	0.014	0.021U	0.021U	22	NQ

Compound	Concentration (mg/kg)			RSD (≤20%)	Qual
	4	5	6		
A	0.0086	0.021U	0.021U	42	NQ
D	0.015	0.041U	0.041U	46	NQ
F	0.0093	0.021U	0.021U	40	NQ
H	0.0080	0.021U	0.021U	45	NQ
I	0.012	0.021U	0.021U	29	NQ
K	0.025	0.021U	0.021U	10	NQ
L	0.021	0.021U	0.021U	0	NQ

NQ = One or two results were < 5x the Limit of Quantitation (LOQ), therefore no data were qualified.

V:\FIELD REPLICATES\36810B40_Arcadis.wpd

(b) (6)

METHOD: GC ✓ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Level IV/D Only

Y N N/A

Were CRQLs adjusted for sample dilutions, dry weight factors, etc.?

Y ~~N~~ N/A

Did the reported results for detected target compounds agree within 10.0% of the recalculated results?

Y	N	N/A

Did the relative percent differences of detected compounds between two columns./detectors $\leq 40\%$?

If no, please see findings bellow.

[illegible]

Comments: See sample calculation verification worksheet for recalculations

LDC #: ⁴⁰²~~36800240~~VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

(b) (6)

METHOD: GC _____ HPLC ☒

The calibration Factor (CF), average CF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

CF = A/C

average CF = sum of the CF/number of standards

%RSD = 100 * (S/X)

A = Area of compound,

C = Concentration of compound,

S = Standard deviation of the CF

X = Mean of the CFs

#	Standard ID	Calibration Date	Compound	Reported	Recalculated	Reported	Recalculated	Reported	Recalculated
				CF (1000 std)	CF (1000 std)	Average CF (initial)	Average CF (initial)	%RSD	%RSD
1	ICAZ	7/13/16	A (LC10)	14400	14390	14200	14200	12.1	12.0
			F V	41800	41765	42200	42200	0.7	0.7
2	ICAZ	7/13/16	O (LC10)	19500	19466	19300	19288	9.0	9.0
3	ICAZ	6/8/16	M (LC08)	24900	24904	26800	26820	11.7	11.8
4									

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 36810140

VALIDATION FINDINGS WORKSHEET **Continuing Calibration Results Verification**

(b) (6)

METHOD: GC _____ HPLC ✓

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = $100 * (\text{ave. CF} - \text{CF}) / \text{ave. CF}$
 CF = A/C

Where: ave. CF = initial calibration average CF
 CF = continuing calibration CF
 A = Area of compound
 C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(1cal)/ CCV Conc.	Reported	Recalculated	Reported	Recalculated
					CF/Conc. CCV	CF/Conc. CCV	%D	%D
1	716000138	7/17/16	A (LC10)	14200	14300	14347	1	1
			Q ↓	42200	44100	44059	4	4
			D ↓	19300	22200	22220	15	15
2	716000150	7/17/16	A ↓	14200	14500	14521	2	2
			Q ↓	42200	43800	43840	4	4
			D ↓	19300	21000	21000	9	9
3	0718000133	7/20/16	M (LC08)	26800	28600	28571	6	7
4	718000209	7/21/16	M (LC08)	26800	23700	23673	12	12

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: ⁴⁰ 36810B40

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

(b) (6)

METHOD: GC ☒ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100
Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
1-chloro-3-nitrobenzene		5000	3490	70	70	0

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

METHOD: ✓ GC HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA Where SSC = Spiked sample concentration SC = Sample concentration
RPD = (((SSCMS - SSCMSD) * 2) / (SSCMS + SSCMSD)) * 100 SA = Spike added
MS = Matrix spike MSD = Matrix spike duplicate

MS/MSD samples: 12/13

Compound	Spike Added (mg/L)		Sample Conc. (mg/L)	Spike Sample Concentration (mg/L)		Matrix spike		Matrix Spike Duplicate		MS/MSD	
	MS	MSD		MS	MSD	Percent Recovery		Percent Recovery		RPD	
						Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)											
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)	2.01	2.01	ND	1.12	1.17	56	56	58	58	5	4
2,4,6-Trinitrotoluene (8330)	✓	✓	✓	1.75	1.33	62	62	66	66	6	7

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: ¹⁰⁰~~36312340~~

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification(b) (6) ~~Page 1 of 1~~METHOD: GC ☒ HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = $100 * (SSC - SC) / SA$

Where: SSC = Spiked sample concentration

SC = Concentration

SA = Spike added

RPD = $|SSCLCS - SSCLCSD| * 2 / (SSCLCS + SSCLCSD)$

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: KNF1605126-7

Compound	Spike Added <i>(m5/8)</i>		Spiked Sample Concentration <i>(m5/8)</i>		LCS		LCSD		LCS/LCSD	
					Percent Recovery		Percent Recovery		RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)	2.00	NA	1.48	NA	74	74				
2,4,6-Trinitrotoluene (8330)	↓	↓	1.70	↓	85	85				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 36810540⁴⁶⁰VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

(b) (6)

Page: 1 of 1

METHOD: GC ☒ HPLC☒ Y ☐ N ☐ N/A

Were all reported results recalculated and verified for all level IV samples?

☒ Y ☐ N ☐ N/A

Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration = $\frac{(A)(F_v)(D_f)}{(RF)(V_s \text{ or } W_s)(\%S/100)}$

Example:

Sample ID: 4 Compound Name A

A= Area or height of the compound to be measured

Fv= Final Volume of extract

Df= Dilution Factor

RF= Average response factor of the compound
in the initial calibration

Vs= Initial volume of the sample

Ws= Initial weight of the sample

%S= Percent Solid

$$\begin{aligned} \text{Concentration} &= \frac{(157612) \times 8 \times 1}{(14200)(10.0445)(0.989)(1000)} \\ &= 0.0086 \text{ mg/kg} \end{aligned}$$

#	Sample ID	Compound	Reported Concentrations (mg/kg)	Recalculated Results Concentrations ()	Qualifications
		<u>A</u>	<u>0.0086</u>		

Comments: _____



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October 13, 2016

Analytical Report for Service Request No: K1610116

(b) (6)

ARCADIS U.S., Inc.
401 East Main Street
Suite 400
El Paso, TX 79901

RE: Closed Castner Firing Range / 06261038.0001.00400

(b) (6)

Enclosed are the results of the sample(s) submitted to our laboratory August 30, 2016
For your reference, these analyses have been assigned our service request number **K1610116**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is (b) (6). You may also contact me via (b) (6).

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

(b) (6)



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Acronyms

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State Certifications, Accreditations, And Licenses

Case Narrative

TRRP

Chain of Custody

Metals

Raw Data

Metals

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS ENVIRONMENTAL

Client: Arcadis U.S., Inc.
Project: Closed Castner Firing Range/ 06261038.0001.00400
Sample Matrix: Water

Service Request No.: K1610116
Date Received: 08/30/16

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Four water samples were received for analysis at ALS Environmental on 08/30/16. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Total and Dissolved Metals

No anomalies associated with the analysis of these samples were observed.

(b) (6)





TRRP

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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www.alsglobal.com

Appendix A ALS Kelso-Laboratory Data Package Signature Page

This data package consists of:

- ☒ This signature page, the laboratory review checklist, and the following reportable data:
- ☒ R1 Field chain-of-custody documentation;
- ☒ R2 Sample identification cross-reference;
- ☒ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- ☒ R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- ☒ R5 Test reports/summary forms for blank samples;
- ☒ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- ☒ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- ☒ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- ☒ R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- ☒ R10 Other problems or anomalies.
- ☒ The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable:] [This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature

(b) (6)



Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group					LRC Date: 10/14/2016			
Project Name: Closed Castner Firing Range					Laboratory Job Number: K1610116			
Reviewer Name: (b) (6)					Prep Batch Number(s): Various			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER ⁵	
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X					
		Were all departures from standard conditions described in an exception report?			X			
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample detection limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X			
		If required for the project, TICs reported?			X			
R4	O	Surrogate recovery data						
		Were surrogates added prior to extraction?	X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X					
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?	X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X					
		Was the LCSD RPD within QC limits?	X					
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X					
		Were MS/MSD RPDs within laboratory QC limits?	X					
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?	X					
		Were analytical duplicates analyzed at the appropriate frequency?	X					
		Were RPDs or relative standard deviations within the laboratory QC limits?	X					
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X					
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 10/14/2016			
Project Name: Closed Castner Firing Range				Laboratory Job Number: K1610116			
Reviewer Name: (b) (6)				Prep Batch Number(s): Various			
#1	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 10/14/2016
Project Name: Closed Castner Firing Range	Laboratory Job Number: K1610116
Reviewer Name: (b) (6)	Prep Batch Number(s): Various
ER# ⁵	Description
<p>Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);</p> <p>NA = Not Applicable;</p> <p>NR = Not Reviewed;</p> <p>R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>	



Chain of Custody

ALS Environmental—Kelso Laboratory
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Класс



Part of the ALS Group A Campbell Brothers Limited Company

Revised : 8/23/2016
019318



Cooler Receipt and Preservation Form

(b) (6)

Client Arcadis Service Request K16 10116
 Received: 8-30-16 Opened: 8-30-16 By: ES Unloaded: 8-30-16 By: ES

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
 2. Samples were received in: (circle) Cooler Box Envelope Other NA
 3. Were custody seals on coolers? NA Y N If yes, how many and where? 1 front / 1 back
 If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
-0.6	-0.8	-	-	-0.2	561	<u>NA</u>	7770 63087154		

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
 5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
 6. Were samples received in good condition (temperature, unbroken)? NA Y N
 If applicable, tissue samples were received: Frozen Partially Thawed Thawed
 7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
 8. Did all sample labels and tags agree with custody papers? NA Y N
 9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
 10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? NA Y N
 11. Were VOA vials received without headspace? NA Y N
 12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions:

7/25/16

Page ____ of ____



Metals

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www.alsglobal.com

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Date Collected:** 8/24/2016
Project Name: Closed Castner Firing Range **Date Received:** 8/30/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-01-082416 **Lab Code:** K1610116-001

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	1.05		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	2.0		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	0.022		
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	4.82		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.832		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	1.11		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Date Collected:** 8/24/2016
Project Name: Closed Castner Firing Range **Date Received:** 8/30/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-01-082416 **Lab Code:** K1610116-001DISS

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	1.37		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	1.9		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	0.011	J	
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	6.54		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.283		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	1.23		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Date Collected:** 8/29/2016
Project Name: Closed Castner Firing Range **Date Received:** 8/30/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-03-082916 **Lab Code:** K1610116-002

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.429		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	0.7		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	3.03		
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	2.70		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.117		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	1.08		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Date Collected:** 8/29/2016
Project Name: Closed Castner Firing Range **Date Received:** 8/30/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-03-082916 **Lab Code:** K1610116-002DISS

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.460		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	0.6		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	2.85		
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	2.49		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.074		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	1.07		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Date Collected:** 8/29/2016
Project Name: Closed Castner Firing Range **Date Received:** 8/30/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FD082916 **Lab Code:** K1610116-003

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.436		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	0.6		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	2.95		
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	2.81		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.127		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	1.13		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Date Collected:** 8/29/2016
Project Name: Closed Castner Firing Range **Date Received:** 8/30/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FD082916 **Lab Code:** K1610116-003DISS

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.504		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	0.7		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	2.57		
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	2.48		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.095		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	1.12		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Date Collected:** 8/29/2016
Project Name: Closed Castner Firing Range **Date Received:** 8/30/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-05-082916 **Lab Code:** K1610116-004

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.390		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	0.9		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	0.011	J	
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	1.67		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.109		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	0.92		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Date Collected:** 8/29/2016
Project Name: Closed Castner Firing Range **Date Received:** 8/30/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-05-082916 **Lab Code:** K1610116-004DISS

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.649		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	0.9		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	0.008	J	
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	1.88		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.104		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	1.02		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Date Collected:**
Project Name: Closed Castner Firing Range **Date Received:**
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: Method Blank **Lab Code:** KQ1611183-01

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.012	U	
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	0.3	U	
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	0.020	U	
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	0.05	U	
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.010	U	
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	0.05	U	

Comments:

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	25.0	23.9	96	25.0	25.2	101	25.7	103	6020A
Arsenic	25.0	23.2	93	25.0	25.0	100	25.7	103	6020A
Beryllium	2.5	2.4	96	25.0	25.1	100	24.9	100	6020A
Copper	12.5	12.1	97	25.0	25.6	102	24.9	100	6020A
Lead	25.0	23.9	96	25.0	25.2	101	24.7	99	6020A
Nickel	25.0	24.2	97	25.0	25.2	101	24.6	98	6020A

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	25.8	103			6020A
Arsenic				25.0	25.7	103			6020A
Beryllium				25.0	24.8	99			6020A
Copper				25.0	25.0	100			6020A
Lead				25.0	24.8	99			6020A
Nickel				25.0	24.6	98			6020A

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATIONClient: ARCADIS U.S., Inc.SDG No.: K1610116Contract: 06261038.0001.00400Lab Code: ALSK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic VenturesContinuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICVW1									
	Antimony	0.054	0.05	108	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Arsenic	0.52	0.5	104	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Beryllium	0.018	0.02	90	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Copper	0.109	0.10	109	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Lead	0.022	0.02	110	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Nickel	0.24	0.20	120	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
LLCCVW1									
	Antimony	0.054	0.05	108	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Arsenic	0.60	0.5	120	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Beryllium	0.016	0.02	80	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Copper	0.107	0.10	107	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Lead	0.021	0.02	105	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Nickel	0.23	0.20	115	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS

Metals

- 3 -
BLANKS

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Method
		C	1	C	2	C	3	C	
Antimony	0.007	J	0.006	U	0.008	J	0.008	J	6020A
Arsenic	0.2	U	0.2	U	0.2	U	0.2	U	6020A
Beryllium	0.006	U	0.006	U	0.006	U	-0.006	J	6020A
Copper	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Lead	0.004	U	0.004	U	0.004	U	0.004	U	6020A
Nickel	0.02	U	0.02	U	0.02	U	0.02	U	6020A

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICP ID Number: K-ICP-MS-03

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony	0.0		0.04	0.03				
Arsenic	0.00	25.00	-0.01	25.56	102			
Beryllium	0.00		0.011	0.004				
Copper	0.0	50.0	1.09	50.8	102			
Lead	0.0		0.12	0.10				
Nickel	0.0	50.0	1.25	50.9	102			

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER **% Solids:** 0.0

Sample Name: FTBL-SP-03-082916S

Lab Code: K1610116-002S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	53.5		0.429		50.00	106		6020A
Arsenic	84 - 116	54.8		0.7		50.00	108		6020A
Beryllium	83 - 121	5.36		3.03		2.50	93		6020A
Copper	85 - 115	14.9		2.70		12.50	98		6020A
Lead	88 - 115	49.9		0.117		50.00	100		6020A
Nickel	85 - 117	25.1		1.08		25.00	96		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1610116

Project No.: 06261038.0001.00400 **Units:** UG/L

Project Name: Closed Castner Firing Range **Basis:** NA

Matrix: WATER **% Solids:** 0.0

Sample Name: FTBL-SP-03-082916SD

Lab Code: K1610116-002SD

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	51.7		0.429		50.00	103		6020A
Arsenic	84 - 116	53.5		0.7		50.00	106		6020A
Beryllium	83 - 121	5.10		3.03		2.50	83		6020A
Copper	85 - 115	14.6		2.70		12.50	95		6020A
Lead	88 - 115	49.0		0.117		50.00	98		6020A
Nickel	85 - 117	24.8		1.08		25.00	95		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER **% Solids:** 0.0

Sample Name: FTBL-SP-03-082916S

Lab Code: K1610116-002DISSS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	53.0		0.460		50.00	105		6020A
Arsenic	84 - 116	55.4		0.6		50.00	110		6020A
Beryllium	83 - 121	5.22		2.85		2.50	95		6020A
Copper	85 - 115	14.8		2.49		12.50	98		6020A
Lead	88 - 115	49.7		0.074		50.00	99		6020A
Nickel	85 - 117	25.2		1.07		25.00	97		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER **% Solids:** 0.0

Sample Name: FTBL-SP-03-082916SD

Lab Code: K1610116-002DISSSD

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	53.3		0.460		50.00	106		6020A
Arsenic	84 - 116	54.8		0.6		50.00	108		6020A
Beryllium	83 - 121	5.28		2.85		2.50	97		6020A
Copper	85 - 115	14.8		2.49		12.50	98		6020A
Lead	88 - 115	50.0		0.074		50.00	100		6020A
Nickel	85 - 117	25.3		1.07		25.00	97		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5B -
POST SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER

Sample Name: FTBL-SP-03-082916A

Lab Code: K1610116-002A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	75 - 125	53.001		0.429		50.0	105		6020A
Arsenic	75 - 125	53.3		0.7		50.0	105		6020A
Beryllium	75 - 125	51.391		3.032		50.0	97		6020A
Copper	75 - 125	51.21		2.70		50.0	97		6020A
Lead	75 - 125	49.364		0.117		50.0	98		6020A
Nickel	75 - 125	49.50		1.08		50.0	97		6020A

ALS Group USA, Corp.

dba ALS Environmental

Metals**- 6 -****DUPLICATES****Client:** ARCADIS U.S., Inc.**Service Request:** K1610116**Project No.:** 06261038.0001.00400**Units:** UG/L**Project Name:** Closed Castner Firing Range**Basis:** NA**Matrix:** WATER**% Solids:** 0.0**Sample Name:** FTBL-SP-03-082916SD**Lab Code:** K1610116-002SD

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony	20	53.5		51.7		3.4		6020A
Arsenic	20	54.8		53.5		2.4		6020A
Beryllium	20	5.36		5.10		5.0		6020A
Copper	20	14.9		14.6		2.0		6020A
Lead	20	49.9		49.0		1.8		6020A
Nickel	20	25.1		24.8		1.2		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

ALS Group USA, Corp.

dba ALS Environmental

Metals**- 6 -****DUPLICATES****Client:** ARCADIS U.S., Inc.**Service Request:** K1610116**Project No.:** 06261038.0001.00400**Units:** UG/L**Project Name:** Closed Castner Firing Range**Basis:** NA**Matrix:** WATER**% Solids:** 0.0**Sample Name:** FTBL-SP-03-082916SD**Lab Code:** K1610116-002DISSSD

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony	20	53.0		53.3		0.6		6020A
Arsenic	20	55.4		54.8		1.1		6020A
Beryllium	20	5.22		5.28		1.1		6020A
Copper	20	14.8		14.8		0.0		6020A
Lead	20	49.7		50.0		0.6		6020A
Nickel	20	25.2		25.3		0.4		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

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LABORATORY CONTROL SAMPLE

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Aqueous LCS Source: ALS MIXED

Solid LCS Source:

Analyte	Aqueous (ug/L)			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Antimony	50	51.8	104						
Arsenic	50	53.2	106						
Beryllium	2.5	2.53	101						
Copper	12.5	12.9	103						
Lead	50	49.6	99						
Nickel	25	25.3	101						

Metals

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ICP SERIAL DILUTIONS

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Units: UG/L

Project Name: Closed Castner Firing Range

Sample Name: FTBL-SP-03-082916L

Lab Code: K1610116-002L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	M
Antimony	0.429	0.783	83	J	MS
Arsenic	0.66	1.00	100.0		MS
Beryllium	3.032	3.526	16	J	MS
Copper	2.70	3.20	19	J	MS
Lead	0.117	0.473	304		MS
Nickel	1.08	1.55	44	J	MS

Metals
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DETECTION LIMITS

Client: ARCADIS U.S., Inc. **Service Request:** K1610116
Project No.: 06261038.0001.00400
Project Name: Closed Castner Firing Range

ICP/ICP-MS ID #: K-ICP-MS-03
GFAA ID #: **AA ID #:**

Analyte	Isotope	Back-ground	LOQ ug/L	LOD ug/L	MDL ug/L	M
Antimony	123		0.050	0.013	0.006	MS
Arsenic	75		0.50	0.25	0.20	MS
Beryllium	9		0.020	0.020	0.006	MS
Copper	65		0.10	0.05	0.02	MS
Lead	208		0.020	0.010	0.004	MS
Nickel	60		0.20	0.05	0.02	MS

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICP ID Number: K-ICP-MS-03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	15.000	2000	6020A
Arsenic	15.000	2000	6020A
Beryllium	15.000	2000	6020A
Copper	15.000	2000	6020A
Lead	15.000	2000	6020A
Nickel	15.000	2000	6020A

Comments:

Metals
-13-
PREPARATION LOG

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1610116-001	9/13/2016	25.0	25.0
K1610116-001DISS	9/13/2016	25.0	25.0
K1610116-002	9/13/2016	25.0	25.0
K1610116-002DISS	9/13/2016	25.0	25.0
K1610116-002DISSS	9/13/2016	25.0	25.0
K1610116-002DISSSD	9/13/2016	25.0	25.0
K1610116-002S	9/13/2016	25.0	25.0
K1610116-002SD	9/13/2016	25.0	25.0
K1610116-003	9/13/2016	25.0	25.0
K1610116-003DISS	9/13/2016	25.0	25.0
K1610116-004	9/13/2016	25.0	25.0
K1610116-004DISS	9/13/2016	25.0	25.0
KQ1611183-01	9/13/2016	25.0	25.0
KQ1611183-02	9/13/2016	25.0	25.0

Metals
- 14 -
ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Run Number: 101116AMS03

Project Name: Closed Castner Firing Range

Instrument ID Number: K-ICP-MS-03

Method: MS

Start Date: 10/11/2016

End Date: 10/11/2016

Sample No.	D/F	Time	% R	Analytes																					
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K S	S E	A G	N A	T L	V N
Cal. Blk	1.0	06:11			X	X		X					X	X					X						
Cal. Stn	1.0	06:16			X	X		X					X	X					X						
ICV1	1.0	06:21			X	X		X					X	X					X						
CCV1	1.0	06:24			X	X		X					X	X					X						
ICB1	1.0	06:32			X	X		X					X	X					X						
CCB1	1.0	06:36			X	X		X					X	X					X						
LLICVW1	1.0	06:39			X	X		X					X	X					X						
ZZZZZZ	1.0	06:43																							
ICS-A1	1.0	06:47			X	X		X					X	X					X						
ICS-AB1	1.0	06:51			X	X		X					X	X					X						
KQ1611183-01	1.0	07:03			X	X		X					X	X					X						
KQ1611183-02	1.0	07:06			X	X		X					X	X					X						
K1610116-001	1.0	07:11			X	X		X					X	X					X						
K1610116-002	1.0	07:15			X	X		X					X	X					X						
K1610116-002L	5.0	07:19			X	X		X					X	X					X						
K1610116-002A	1.0	07:22			X	X		X					X	X					X						
K1610116-002S	1.0	07:26			X	X		X					X	X					X						
K1610116-002SD	1.0	07:30			X	X		X					X	X					X						
K1610116-003	1.0	07:34			X	X		X					X	X					X						
K1610116-004	1.0	07:37			X	X		X					X	X					X						
CCV2	1.0	07:41			X	X		X					X	X					X						
CCB2	1.0	07:48			X	X		X					X	X					X						
K1610116-001DISS	1.0	07:51			X	X		X					X	X					X						
K1610116-002DISS	1.0	07:55			X	X		X					X	X					X						
K1610116-002DISSS	1.0	07:58			X	X		X					X	X					X						
K1610116-002DISSSD	1.0	08:02			X	X		X					X	X					X						
K1610116-003DISS	1.0	08:06			X	X		X					X	X					X						
K1610116-004DISS	1.0	08:10			X	X		X					X	X					X						
ZZZZZZ	1.0	08:14																							
ZZZZZZ	1.0	08:17																							
CCV3	1.0	08:21			X	X		X					X	X					X						
CCB3	1.0	08:27			X	X		X					X	X					X						

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

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ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc.

Service Request: K1610116

Project No.: 06261038.0001.00400

Run Number: 101116AMS03

Project Name: Closed Castner Firing Range

Instrument ID Number: K-ICP-MS-03

Method: MS

Start Date: 10/11/2016

End Date: 10/11/2016

Sample No.	D/F	Time	% R	Analytes																							
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V	Z N	C N
LLCCVW1	1.0	08:30			X	X		X					X		X				X								

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: 06261038.0001.00400
 Lab Code: ALSK Case No.: _____ NRAS No.: _____ SDG NO.: K1610116
 ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 10/11/2016 End Date: 10/11/2016

Sample No.	Client ID	Time	Internal Standards %RI For:									
			Element Li_6	Q	Element Ga_71	Q	Element Rh_103	Q	Element In_115	Q	Element Lu_175	Q
Cal. Blk	Cal. Blk	0611	100		100		100		100		100	
Cal. Stn	Cal. Stn	0616	102		101		100		102		101	
ICV1	ICV1	0621	104		101		99		100		100	
CCV1	CCV1	0624	104		100		99		100		100	
ICB1	ICB1	0632	103		99		97		97		97	
CCB1	CCB1	0636	104		99		98		98		97	
LLICVW1	LLICVW1	0639	103		99		98		98		97	
ZZZZZZ	ZZZZZZ	0643										
ICS-A1	ICSA	0647	102		100		94		98		95	
ICS-AB1	ICSAB	0651	108		109		102		105		98	
KQ1611183-01	Method Blank	0703	110		111		105		101		88	
KQ1611183-02	Lab Control	0706	101		103		100		98		90	
K1610116-001	FTBL-SP-01-08241	0711	104		96		92		92		86	
K1610116-002	FTBL-SP-03-08291	0715	100		94		89		90		86	
K1610116-002L	FTBL-SP-03-08291	0719	107		100		96		94		86	
K1610116-002A	FTBL-SP-03-08291	0722	98		89		86		88		84	
K1610116-002S	FTBL-SP-03-08291	0726	96		88		85		86		84	
K1610116-002SD	FTBL-SP-03-08291	0730	97		88		85		86		84	
K1610116-003	FD082916	0734	94		85		82		83		82	
K1610116-004	FTBL-SP-05-08291	0737	89		81		78		79		80	
CCV2	CCV2	0741	96		89		86		87		83	
CCB2	CCB2	0748	97		86		83		82		79	
K1610116-001DISS	FTBL-SP-01-08241	0751	91		82		79		80		80	
K1610116-002DISS	FTBL-SP-03-08291	0755	94		86		82		83		82	
K1610116-002DISS	FTBL-SP-03-08291	0758	96		87		84		85		84	
K1610116-002DISS	FTBL-SP-03-08291	0802	93		87		83		84		83	
K1610116-003DISS	FD082916	0806	92		84		81		82		81	
K1610116-004DISS	FTBL-SP-05-08291	0810	87		79		77		79		80	
ZZZZZZ	ZZZZZZ	0814										
ZZZZZZ	ZZZZZZ	0817										
CCV3	CCV3	0821	93		87		85		85		82	
CCB3	CCB3	0827	94		83		81		80		78	
LLCCVW1	LLCCVW1	0830	95		83		81		80		78	



Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



Metals

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Preparation Information Benchsheet

Prep Run: 270814 **Prep Workflow:** MetDigAqMS **Status:** Prepped **Prep Date:** 09/13/2016 14:23
Team: Metals **EPA CLP- METALS** **Current Step:** Digestion
Analyst: Anna Cheatley **Prep Method:** ILM04.0 **Due Date:** 09/13/2016
Rush/NPDES: N/A **Hold Date:** 02/20/2017

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1611183-01	Method Blank		25 mL	25 mL			Metals D, Metals T	1%HNO3 ULTREX, 0.05mL HCl
KQ1611183-02	Lab Control Sample		25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals D, Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-001	FTBL-SP-01-082416	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-001	FTBL-SP-01-082416	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002	FTBL-SP-03-082916	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002	FTBL-SP-03-082916	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002: KQ1611183-03	Matrix Spike	.01	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002: KQ1611183-04	Duplicate Matrix Spike	.01	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002: KQ1611183-05	Matrix Spike	.02	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002: KQ1611183-06	Duplicate Matrix Spike	.02	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-003	FD082916	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-003	FD082916	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-004	FTBL-SP-05-082916	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-004	FTBL-SP-05-082916	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610299-001	FTBL-SP-07-090116	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610299-001	FTBL-SP-07-090116	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl

11 Total Samples consisting of 5 Client Samples, 4 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
k-met 1/100 QCP CICV-1	Spike	172654	10/14/2016	k-met Sb Sug/mL Sb	Spike	174317	7/12/2017
k-met 1/100 QCP-CICV-3	Spike	172187	10/14/2016				

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET 50ml Centrifuge Tube	173969	Digestion	K-MET HNO3 ULTREX	175090

Preparation Hardware / Equipment

Step	Name	Property	Value		Step	Name	Property	Value	
Digestion	K-BlockDigester-05	Corrected Temperature	97	deg C	Digestion	K-BlockDigester-05	Thermometer ID 6402717		NONE
Digestion	K-BlockDigester-05	Correction Factor	0	deg C	Digestion	K-BlockDigester-05	Thermometer Location	28	NONE
Digestion	K-BlockDigester-05	Observed Temperature	97	deg C					

Preparation Steps

<u>Step</u>	<u>Started</u>	<u>Finished</u>	<u>By</u>	<u>Assisted By</u>	<u>Training?</u>	<u>Comments</u>
Digestion	13-SEP-16 14:23	13-SEP-16 16:23	Anna Cheatley		N	

Comments

HCl lot #53338

Review

Reviewed by: _____

(b) (6)

Date: 9/14/16

ICP-MS LCSW AND SPIKING SOLUTIONS

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-1
k-met 1/100 QCP-CICV-1

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Al	10000	100
Ag	1250	12.5
Ba	10000	100
Be	250	2.5
Ca	25000	250
Co	2500	25
Cu	1250	12.5
Cr	1000	10
Fe	5000	50
K	25000	250
Mg	25000	250
Mn	2500	25
Na	25000	250
Ni	2500	25
V	2500	25
Zn	2500	25

2.50mL to 500mL Dilution of 1000ppm Sb
k-met 5ug/mL Sb

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Sb	5000	50

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-3
k-met 1/100 QCP-CICV-3

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
As	5000	50
Pb	5000	50
Se	5000	50
Tl	5000	50
Cd	2500	25

2.00mL to 200mL Dilution of 1,000 ppm Mo and 1,000 ppm U
k-met Mo/U 10ppm

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Mo	10000	20
U	10000	20

Service Request # K1610116 2/11/16
 Calibration 101116BMS03 A
 QC in calibration 101116BMS03 A
 QC Service Request # K1610116 _____
 STARLIMS run # 517885 _____
 Cal Std: MS20-100H ICSA Std: MS20-98K
 ICV Std: MS20-87J ICSAB Std: MS20-98L
 LLICV Std: MS20-98J I.S. Solution: MS20-46A

6020A DoD 5.0 Data Review Form

	Yes	No	NA
1. Mass calibration <0.1 amu?	<u>X</u>	_____	_____
2. Resolution <0.9 amu at 10% peak height?	<u>X</u>	_____	_____
3. Stability RSD ≤5% for five replicates?	<u>X</u>	_____	_____
4. Appropriate standardization completed?	<u>X</u>	_____	_____
5. ICV within 10% of true value?	<u>X</u>	_____	_____
6. CCV's within 10% of true?	<u>X</u>	_____	_____
7. ICB/CCB's <LOD?	<u>X</u>	_____	_____
8. Initial Low-level cal. check ± 20%	<u>X</u>	_____	_____
9. ICSA/ICSAB within ± 20%	<u>X</u>	_____	_____
10. Method blank <½ the LOQ?	<u>X</u>	_____	_____
11. LCS within DoD 5.0 limit?	<u>X</u>	_____	_____
12. Spikes within DoD 5.0 limit?	<u>X</u>	_____	_____
13. Duplicate Spike RPD <20% DoD limit?	<u>X</u>	_____	_____
14. Serial dilution within 10%?	<u>X</u>	_____	_____
15. Post spike within 80-120% DoD limit?	<u>X</u>	_____	_____
16. Internal standards within 70-120%?	<u>X</u>	_____	_____
17. Linear range established with LRS?	<u>X</u>	_____	_____
18. Adequate rinse out time allowed?	<u>X</u>	_____	_____
20. Interferences checked?	<u>X</u>	_____	_____
21. Se over MRL?	_____	<u>X</u>	_____
22. Cd Correction Applied?	_____	_____	<u>X</u>
23. Was run prematurely stopped, If so why?	_____	<u>X</u>	_____

Comments:

Primary Review by (b) (6) Date 10/11/16
 Secondary Review by (b) (6) Date 11/12/16

R:\icp\misc\data review forms\6020 Do

Data Review Form

Service Request #: K1610116
Instrument ID#: K-ICP-MS-03
DataFile Name: R:\ICP\WIP\DATA\K-ICP-MS-03 (X-Series)
\101116AMS03.csv
RUNNO: 517885

K1610116-002SDL - Metals T

Serial Dillution

6020A/Metals T - Be9 - Recovery: 16 Limit:
6020A/Metals T - Ni60 - Recovery: 44 Limit:
6020A/Metals T - Cu65 - Recovery: 19 Limit:
6020A/Metals T - Sb123 - Recovery: 82 Limit:
6020A/Metals D - Be9 - Recovery: 16 Limit: 90
6020A/Metals D - Ni60 - Recovery: 44 Limit: 90
6020A/Metals D - Cu65 - Recovery: 19 Limit: 90
6020A/Metals D - Sb123 - Recovery: 82 Limit: 90

*PDS is in
Control*

Analytical Method 6020A

Primary Approver: (b) (6) *J 10/14/16*
Secondary Approver: [Redacted] *10/12/16*

Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	Cal. Blk	Blank	1.000	0	1	1	145
2	Cal. Std	Fully Quant Standard	1.000	0	1	2	145
3	ICV1	Unknown	1.000	0	1	3	145
4	CCV1	Unknown	1.000	0	1	2	145
5	ICB1	Unknown	1.000	0	1	1	145
6	CCB1	Unknown	1.000	0	1	1	145
7	LLICW	Unknown	1.000	0	1	4	145
8	LRSTD	Unknown	1.000	1	2	7	145
9	ICSA	Unknown	1.000	0	1	5	145
10	ICSAB	Unknown	1.000	0	1	6	145
11	KQ1611183-01	Unknown	1.000	1	1	1	145
12	KQ1611183-02	Unknown	1.000	1	1	2	145
13	K1610116-001	Unknown	1.000	1	1	3	145
14	K1610116-002	Unknown	1.000	1	1	4	145
15	K1610116-002L	Unknown	1.000	1	1	5	145
16	K1610116-002A	Unknown	1.000	1	1	6	145
17	K1610116-002S	Unknown	1.000	1	1	7	145
18	K1610116-002SD	Unknown	1.000	1	1	8	145
19	K1610116-003	Unknown	1.000	1	1	9	145
20	K1610116-004	Unknown	1.000	1	1	10	145
21	CCV2	Unknown	1.000	0	1	2	145
22	CCB2	Unknown	1.000	0	1	1	145
23	K1610116-001 DISS	Unknown	1.000	1	1	11	145
24	K1610116-002 DISS	Unknown	1.000	1	1	12	145
25	K1610116-002S DISS	Unknown	1.000	1	2	1	145
26	K1610116-002SD DISS	Unknown	1.000	1	2	2	145
27	K1610116-003 DISS	Unknown	1.000	1	2	3	145
28	K1610116-004 DISS	Unknown	1.000	1	2	4	145
29	K1610299-001	Unknown	1.000	1	2	5	145
30	K1610299-001 DISS	Unknown	1.000	1	2	6	145
31	CCV3	Unknown	1.000	0	1	2	145
32	CCB3	Unknown	1.000	0	1	1	145
33	LLCCW	Unknown	1.000	0	1	4	145

Performance Report

Sample details

Acquired at : 10/11/2016 5:55:44 AM

Report name : Kelso Performance Report 3 [8/24/2011 10:10:34 AM]

Mass Calibration verification

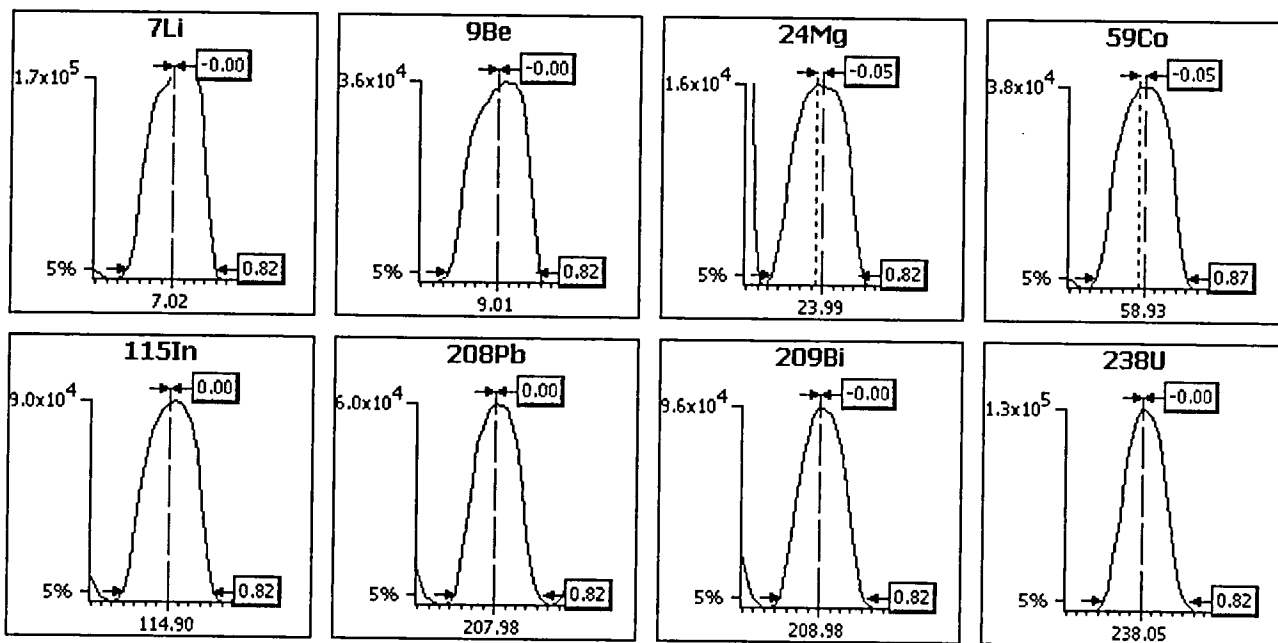
Acquisition parameters

Sweeps : 100

Dwell : 1.0 mSecs

Point spacing : 0.05 amu

Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.90	0.60	0.10	0.82	-0.00
9Be	0.90	0.60	0.10	0.82	-0.00
24Mg	0.90	0.60	0.10	0.82	-0.05
59Co	0.90	0.60	0.10	0.87	-0.05
115In	0.90	0.60	0.10	0.82	0.00
208Pb	0.90	0.60	0.10	0.82	0.00
209Bi	0.90	0.60	0.10	0.82	-0.00
238U	0.90	0.60	0.10	0.82	-0.00

Dilution Corrected Concentrations

Cal. Blk 10/11/2016 6:11:12 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:11:12	99.3%	0.0014	0.0052	-0.0041	-0.0024	0.0014	98.7%	0.0376	-0.0107	-0.0019
2	06:11:44	100.0%	-0.0022	-0.0048	0.0146	0.0051	-0.0018	100.5%	-0.0132	-0.0222	0.1299
3	06:12:16	100.7%	0.0007	-0.0004	-0.0105	-0.0027	0.0005	100.8%	-0.0244	0.0329	-0.1280
X		100.0%	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	100.0%	0.0000	-0.0000	-0.0000
σ		0.7%	0.0019	0.0050	0.0130	0.0044	0.0017	1.1%	0.0330	0.0291	0.1290
%RSD		0.7	0.0000	0.0000	0.0000	0.0000	0.0000	1.1	0.0000	0.0000	0.0000
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:11:12	0.1229	99.5%	98.8%	0.0002	0.0005	98.1%	0.0001	-0.0005	0.0001	
2	06:11:44	-0.0650	99.8%	100.4%	0.0007	0.0010	99.9%	0.0004	0.0008	0.0003	
3	06:12:16	-0.0580	100.7%	100.8%	-0.0009	-0.0015	101.9%	-0.0005	-0.0003	-0.0004	
X		0.0000	100.0%	100.0%	-0.0000	-0.0000	100.0%	-0.0000	0.0000	-0.0000	
σ		0.1065	0.6%	1.1%	0.0008	0.0014	1.9%	0.0004	0.0007	0.0004	
%RSD		0.0000	0.6	1.1	0.0000	0.0000	1.9	0.0000	0.0000	0.0000	

Cal. Stn 10/11/2016 6:16:11 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:16:11	102.8%	25.2209	25.3246	25.3507	25.0026	25.0578	99.9%	25.1374	24.5970	24.7504
2	06:16:43	100.3%	25.0356	25.0240	24.9063	24.9829	25.1110	100.9%	24.6576	25.8191	25.0414
3	06:17:16	103.6%	24.7435	24.6513	24.7431	25.0145	24.8312	100.8%	25.2050	24.5840	25.2082
X		102.2%	25.0000	25.0000	25.0000	25.0000	25.0000	100.5%	25.0000	25.0000	25.0000
σ		1.7%	0.2407	0.3373	0.3145	0.0160	0.1486	0.5%	0.2984	0.7093	0.2317
%RSD		1.7	0.9627	1.3492	1.2579	0.0639	0.5943	0.5	1.1937	2.8374	0.9267
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:16:11	24.7084	99.5%	101.4%	24.8064	24.9996	100.7%	24.9904	24.8810	24.9714	
2	06:16:43	24.6662	100.1%	101.7%	25.0920	25.1062	100.8%	24.9343	25.1028	24.9622	
3	06:17:16	25.6254	100.9%	102.1%	25.1016	24.8942	101.1%	25.0753	25.0162	25.0664	
X		25.0000	100.2%	101.7%	25.0000	25.0000	100.8%	25.0000	25.0000	25.0000	
σ		0.5420	0.7%	0.4%	0.1677	0.1060	0.3%	0.0710	0.1118	0.0577	
%RSD		2.1680	0.7	0.4	0.6709	0.4241	0.3	0.2840	0.4472	0.2309	

ICV1 10/11/2016 6:21:03 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:21:03	105.2%	2.3621	24.0410	24.6870	12.2011	12.0689	100.1%	23.2248	22.4165	22.8323
2	06:21:35	103.0%	2.3368	24.4427	24.6248	12.1290	12.0657	100.8%	23.1423	23.1060	22.6367
3	06:22:08	103.7%	2.3917	24.2036	24.6866	12.0911	12.1909	100.9%	23.2611	21.7327	22.7379
X		104.0%	2.3635	24.2291	24.6662	12.1404	12.1085	100.6%	23.2094	22.4184	22.7356
σ		1.1%	0.0275	0.2021	0.0358	0.0559	0.0714	0.4%	0.0609	0.6866	0.0978
%RSD		1.1	1.1617	0.8340	0.1451	0.4603	0.5893	0.4	0.2622	3.0627	0.4303
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:21:03	23.0899	97.5%	98.5%	23.9514	23.9280	98.2%	24.0020	24.9031	24.0489	
2	06:21:35	23.4715	100.0%	100.4%	23.9721	23.7713	101.0%	23.6219	24.6051	23.6630	
3	06:22:08	22.7304	99.7%	100.5%	23.9855	23.9029	100.4%	23.9685	24.8714	24.0063	
X		23.0973	99.0%	99.8%	23.9697	23.8674	99.9%	23.8641	24.7932	23.9061	
σ		0.3706	1.4%	1.2%	0.0172	0.0841	1.4%	0.2105	0.1636	0.2116	
%RSD		1.6046	1.4	1.2	0.0717	0.3525	1.4	0.8819	0.6601	0.8852	

CCV1 10/11/2016 6:24:43 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:24:43	104.4%	25.1923	25.1351	25.4513	25.4409	25.7179	99.1%	24.8828	25.2150	24.9903
2	06:25:15	104.4%	24.9467	25.2545	25.1022	25.2898	25.4095	100.4%	25.0213	25.0516	25.4067
3	06:25:48	102.1%	25.2526	25.3393	25.1145	25.6801	25.7867	99.3%	25.2079	24.4961	24.9090
X		103.6%	25.1305	25.2430	25.2227	25.4702	25.6380	99.6%	25.0373	24.9209	25.1020
σ		1.3%	0.1621	0.1026	0.1981	0.1968	0.2009	0.7%	0.1631	0.3768	0.2670
%RSD		1.3	0.6449	0.4063	0.7853	0.7727	0.7835	0.7	0.6514	1.5120	1.0636
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:24:43	24.3587	99.1%	99.4%	24.9462	25.0650	99.0%	25.2747	24.9341	25.2622	
2	06:25:15	25.3523	98.7%	100.3%	25.2389	25.2293	99.9%	25.4051	25.3536	25.3879	
3	06:25:48	24.3607	99.6%	100.3%	25.4175	25.4288	100.4%	24.9438	25.1595	24.9762	
X		24.6906	99.1%	100.0%	25.2009	25.2410	99.7%	25.2078	25.1490	25.2087	
σ		0.5730	0.5%	0.5%	0.2379	0.1822	0.7%	0.2378	0.2099	0.2110	
%RSD		2.3209	0.5	0.5	0.9442	0.7218	0.7	0.9434	0.8348	0.8370	

ICB1 10/11/2016 6:32:44 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:32:44	102.0%	0.0015	0.0167	0.0447	0.0052	0.0073	98.1%	-0.0011	0.0677	0.0337
2	06:33:17	103.7%	-0.0064	0.0141	-0.0038	-0.0021	0.0070	98.9%	0.0463	-0.0769	-0.2048
3	06:33:49	103.8%	-0.0021	0.0177	0.0194	-0.0012	-0.0023	100.1%	-0.0073	0.0163	-0.1426
X		103.2%	-0.0023	0.0162	0.0201	0.0006	0.0040	99.0%	0.0127	0.0024	-0.1046
σ		1.0%	0.0040	0.0019	0.0243	0.0040	0.0055	1.0%	0.0293	0.0733	0.1237
%RSD		1.0	170.7735	11.6176	120.5150	638.0723	136.6843	1.0	231.9549	3087.4762	118.3124
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:32:44	0.0473	96.5%	96.1%	0.0092	0.0063	95.0%	-0.0012	0.0001	-0.0012	
2	06:33:17	0.0956	97.4%	97.9%	0.0076	0.0077	97.5%	0.0000	0.0006	-0.0000	
3	06:33:49	-0.0097	98.1%	98.3%	0.0061	0.0073	98.2%	-0.0006	0.0002	-0.0006	
X		0.0444	97.4%	97.4%	0.0076	0.0071	96.9%	-0.0006	0.0003	-0.0006	
σ		0.0527	0.8%	1.1%	0.0016	0.0007	1.7%	0.0006	0.0002	0.0006	
%RSD		118.7580	0.8	1.2	20.7470	10.0128	1.7	97.2519	82.1453	99.0176	

CCB1 10/11/2016 6:36:11 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:36:11	104.6%	-0.0027	0.0223	0.0527	0.0001	-0.0005	98.1%	0.0462	0.0383	-0.2010
2	06:36:43	103.4%	-0.0016	0.0174	0.0320	-0.0024	-0.0012	99.3%	0.0510	0.0364	0.0865
3	06:37:15	102.9%	-0.0010	0.0054	0.0131	0.0001	-0.0013	99.7%	-0.0036	-0.0397	-0.0587
X		103.6%	-0.0018	0.0150	0.0326	-0.0007	-0.0010	99.0%	0.0312	0.0117	-0.0577
σ		0.9%	0.0008	0.0087	0.0198	0.0015	0.0004	0.8%	0.0302	0.0445	0.1438
%RSD		0.9	47.6683	57.7370	60.7801	198.8411	39.8995	0.8	96.8590	381.8844	249.0486
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:36:11	0.1948	97.9%	97.1%	-0.0008	0.0014	96.4%	0.0005	0.0004	0.0004	
2	06:36:43	0.1998	98.2%	98.2%	0.0017	0.0043	97.3%	-0.0011	0.0008	-0.0010	
3	06:37:15	-0.0654	97.9%	98.0%	0.0026	0.0020	97.5%	-0.0012	0.0018	-0.0011	
X		0.1098	98.0%	97.8%	0.0012	0.0026	97.1%	-0.0006	0.0010	-0.0006	
σ		0.1517	0.2%	0.6%	0.0018	0.0016	0.6%	0.0010	0.0007	0.0008	
%RSD		138.2134	0.2	0.6	146.8581	60.4621	0.6	163.3078	72.3105	144.9753	

LLICVW 10/11/2016 6:39:27 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:39:27	100.6%	0.0156	0.2522	0.2175	0.1041	0.1035	98.0%	0.5385	1.0453	1.0677
2	06:39:59	103.9%	0.0185	0.2257	0.2550	0.0966	0.1167	98.8%	0.5041	1.1694	0.9771
3	06:40:32	104.3%	0.0184	0.2338	0.2316	0.0978	0.1054	101.0%	0.5058	1.0196	1.0203
X		102.9%	0.0175	0.2372	0.2347	0.0995	0.1085	99.3%	0.5161	1.0781	1.0217
σ		2.0%	0.0016	0.0136	0.0189	0.0040	0.0071	1.6%	0.0194	0.0801	0.0453
%RSD		2.0	9.4156	5.7313	8.0720	4.0237	6.5871	1.6	3.7503	7.4329	4.4337
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:39:27	1.1076	97.0%	97.1%	0.0486	0.0594	95.9%	0.0234	0.0202	0.0233	
2	06:39:59	0.9658	97.6%	97.3%	0.0546	0.0550	97.3%	0.0223	0.0247	0.0222	
3	06:40:32	0.9861	99.5%	99.8%	0.0541	0.0489	98.9%	0.0214	0.0218	0.0213	
X		1.0198	98.0%	98.1%	0.0524	0.0544	97.4%	0.0223	0.0222	0.0223	
σ		0.0767	1.3%	1.5%	0.0034	0.0053	1.5%	0.0010	0.0023	0.0010	
%RSD		7.5223	1.3	1.5	6.3956	9.6524	1.5	4.6421	10.2495	4.4334	

LRSTD 10/11/2016 6:43:14 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:43:14	102.4%	197.4266	194.6290	195.0468	200.0445	199.0780	97.9%	202.2703	197.9178	201.3942
2	06:43:46	102.1%	194.9237	195.0359	193.5551	199.9473	197.8671	99.5%	200.0108	202.5154	199.2036
3	06:44:19	101.6%	195.2352	196.3611	194.4918	200.2077	198.0731	98.0%	199.8683	197.0776	200.3537
X		102.0%	195.8618	195.3420	194.3646	200.0665	198.3394	98.5%	200.7165	199.1703	200.3172
σ		0.4%	1.3641	0.9057	0.7539	0.1316	0.6479	0.9%	1.3476	2.9273	1.0957
%RSD		0.4	0.6964	0.4637	0.3879	0.0658	0.3267	0.9	0.6714	1.4697	0.5470
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:43:14	199.8284	96.8%	103.6%	198.6772	196.3424	97.9%	206.4004	205.1492	210.9696	
2	06:43:46	199.1363	96.8%	103.9%	199.8103	198.2098	98.5%	207.7011	206.6595	212.1659	
3	06:44:19	199.7599	96.7%	104.9%	197.1488	195.9021	99.1%	206.8548	206.0935	211.2994	
X		199.5749	96.8%	104.1%	198.5454	196.8181	98.5%	206.9854	205.9674	211.4783	
σ		0.3813	0.1%	0.7%	1.3356	1.2252	0.6%	0.6601	0.7630	0.6179	
%RSD		0.1911	0.1	0.6	0.6727	0.6225	0.6	0.3189	0.3704	0.2922	

ICSA 10/11/2016 6:47:57 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:47:57	99.7%	0.0123	1.3298	2.1090	1.1352	1.0864	96.7%	-0.0743	1.5369	0.1129
2	06:48:30	103.0%	0.0125	1.1668	2.0041	1.1526	1.0980	99.8%	0.0546	1.3662	0.3446
3	06:49:02	103.9%	0.0079	1.2409	1.9858	1.1507	1.0800	102.6%	-0.0238	1.4106	0.1281
X		102.2%	0.0109	1.2459	2.0329	1.1462	1.0881	99.7%	-0.0145	1.4379	0.1952
σ		2.2%	0.0026	0.0816	0.0665	0.0096	0.0091	3.0%	0.0649	0.0886	0.1296
%RSD		2.2	23.6028	6.5505	3.2703	0.8358	0.8365	3.0	447.5621	6.1598	66.4068
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:47:57	-0.4841	90.6%	94.6%	0.0374	0.0346	92.9%	0.1165	0.1064	0.1165	
2	06:48:30	-0.1789	94.6%	97.9%	0.0445	0.0412	95.5%	0.1236	0.1213	0.1226	
3	06:49:02	-0.4096	96.3%	100.3%	0.0426	0.0366	96.7%	0.1102	0.1097	0.1101	
X		-0.3575	93.9%	97.6%	0.0415	0.0375	95.0%	0.1168	0.1125	0.1164	
σ		0.1591	2.9%	2.9%	0.0036	0.0034	1.9%	0.0067	0.0078	0.0062	
%RSD		44.5053	3.1	2.9	8.7734	8.9740	2.0	5.7240	6.9642	5.3424	

ICsAB 10/11/2016 6:51:32 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:51:32	108.6%	0.0011	50.4071	52.5254	51.2802	51.0601	108.0%	25.3597	27.3846	26.3885
2	06:52:04	107.7%	0.0049	51.0503	52.7340	51.2141	50.7765	109.8%	25.6923	25.3501	26.3199
3	06:52:37	107.3%	0.0049	51.1821	53.2544	50.5418	50.4968	110.0%	25.6199	26.0284	25.8909
x		107.9%	0.0036	50.8798	52.8379	51.0120	50.7778	109.3%	25.5573	26.2544	26.1998
σ		0.7%	0.0022	0.4147	0.3755	0.4085	0.2817	1.1%	0.1749	1.0359	0.2697
%RSD		0.6	61.4303	0.8150	0.7106	0.8009	0.5547	1.0	0.6844	3.9456	1.0294
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:51:32	24.8160	101.0%	103.8%	0.0277	0.0323	97.1%	0.0993	0.0976	0.0988	
2	06:52:04	24.6169	102.9%	106.0%	0.0279	0.0254	98.3%	0.1025	0.0990	0.1025	
3	06:52:37	24.5833	102.8%	106.0%	0.0280	0.0291	99.0%	0.1068	0.1044	0.1061	
x		24.6721	102.2%	105.3%	0.0279	0.0289	98.1%	0.1028	0.1003	0.1025	
σ		0.1258	1.1%	1.3%	0.0001	0.0035	1.0%	0.0037	0.0036	0.0036	
%RSD		0.5100	1.1	1.2	0.4480	12.0053	1.0	3.6453	3.5889	3.5289	

KQ1611183-01 10/11/2016 7:03:50 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:03:50	108.8%	-0.0031	0.0133	0.3964	0.0260	0.0068	109.1%	-0.0139	0.0635	0.7842
2	07:04:22	112.1%	-0.0029	0.0180	0.4197	0.0289	0.0044	111.9%	-0.0357	0.0497	0.7124
3	07:04:55	108.0%	-0.0039	0.0137	0.3567	0.0313	0.0058	111.7%	-0.0484	0.0580	0.8227
x		109.6%	-0.0033	0.0150	0.3909	0.0287	0.0056	110.9%	-0.0327	0.0571	0.7731
σ		2.1%	0.0005	0.0026	0.0318	0.0026	0.0012	1.6%	0.0175	0.0069	0.0560
%RSD		2.0	15.9760	17.4749	8.1439	9.1208	21.3890	1.4	53.3939	12.1564	7.2375
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:03:50	-0.0176	102.9%	99.2%	-0.0039	-0.0010	85.6%	0.0020	0.0026	0.0020	
2	07:04:22	-0.1127	104.7%	101.5%	-0.0005	-0.0021	88.5%	0.0025	0.0016	0.0025	
3	07:04:55	-0.1628	106.0%	102.2%	-0.0023	0.0001	88.5%	0.0027	0.0020	0.0026	
x		-0.0977	104.6%	101.0%	-0.0022	-0.0010	87.5%	0.0024	0.0020	0.0023	
σ		0.0737	1.5%	1.6%	0.0017	0.0011	1.7%	0.0003	0.0005	0.0003	
%RSD		75.4586	1.5	1.5	76.8276	113.6903	1.9	13.9773	24.3532	14.0471	

KQ1611183-02 10/11/2016 7:06:54 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:06:54	102.5%	2.4800	25.1559	25.6450	12.9205	12.9134	103.3%	53.2339	54.5948	53.5977
2	07:07:27	101.5%	2.5047	25.5335	25.8398	12.7836	12.9898	103.7%	53.0403	52.5792	54.0415
3	07:07:59	99.2%	2.6072	25.2827	25.5595	12.9591	12.6983	103.2%	53.3505	53.2711	53.2097
x		101.1%	2.5306	25.3241	25.6814	12.8877	12.8671	103.4%	53.2082	53.4817	53.6163
σ		1.7%	0.0675	0.1922	0.1436	0.0922	0.1512	0.3%	0.1566	1.0242	0.4162
%RSD		1.7	2.6654	0.7588	0.5593	0.7156	1.1749	0.3	0.2944	1.9150	0.7762
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:06:54	53.8886	99.8%	97.2%	52.4704	52.0347	88.4%	49.5835	50.9335	49.6438	
2	07:07:27	51.8056	100.7%	99.4%	51.5576	51.3591	90.4%	49.4085	51.0621	49.4742	
3	07:07:59	52.1478	99.6%	97.6%	52.3222	52.0035	89.8%	49.6912	51.4843	49.7540	
x		52.6140	100.0%	98.1%	52.1168	51.7991	89.5%	49.5611	51.1600	49.6240	
σ		1.1170	0.6%	1.1%	0.4898	0.3814	1.0%	0.1427	0.2881	0.1409	
%RSD		2.1230	0.6	1.2	0.9399	0.7363	1.1	0.2879	0.5632	0.2840	

K1610116-001 10/11/2016 7:11:37 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:11:37	106.0%	0.0272	1.1438	0.8223	4.7370	4.9040	97.8%	1.9389	3.5060	0.9837
2	07:12:10	104.9%	0.0220	1.0996	0.8024	4.8219	4.8108	96.2%	2.0029	3.3508	0.7746
3	07:12:43	102.1%	0.0161	1.0992	0.7741	4.7515	4.7402	94.9%	1.9478	3.4744	0.6924
x		104.3%	0.0218	1.1142	0.7996	4.7701	4.8183	96.3%	1.9632	3.4437	0.8169
σ		2.0%	0.0056	0.0257	0.0242	0.0454	0.0822	1.5%	0.0347	0.0820	0.1502
%RSD		1.9	25.5138	2.3023	3.0293	0.9525	1.7057	1.5	1.7667	2.3825	18.3849
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:11:37	0.4076	93.0%	91.0%	1.0386	1.0386	85.3%	0.8111	0.8097	0.8100	
2	07:12:10	0.4198	92.9%	91.9%	1.0766	1.0496	87.1%	0.8392	0.8338	0.8354	
3	07:12:43	0.5826	90.7%	91.7%	1.0502	1.0584	86.2%	0.8536	0.8060	0.8490	
x		0.4700	92.2%	91.6%	1.0551	1.0488	86.2%	0.8346	0.8165	0.8315	
σ		0.0977	1.3%	0.5%	0.0195	0.0099	0.9%	0.0216	0.0151	0.0198	
%RSD		20.7947	1.4	0.5	1.8491	0.9466	1.0	2.5917	1.8480	2.3817	

K1610116-002 10/11/2016 7:15:30 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:15:30	100.5%	3.0126	1.0635	0.6956	2.7037	2.6791	93.2%	0.6873	3.8839	1.0031
2	07:16:03	100.1%	3.0714	1.0924	0.7184	2.7514	2.6914	93.7%	0.6525	4.3127	0.7178
3	07:16:35	99.6%	3.0127	1.0817	0.7472	2.7003	2.7362	93.6%	0.6510	4.1208	0.7863
x		100.1%	3.0322	1.0792	0.7204	2.7185	2.7022	93.5%	0.6636	4.1058	0.8357
σ		0.4%	0.0339	0.0146	0.0258	0.0285	0.0301	0.3%	0.0206	0.2148	0.1490
%RSD		0.4	1.1193	1.3514	3.5877	1.0498	1.1131	0.3	3.0975	5.2318	17.8237
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:15:30	0.4052	89.4%	88.3%	0.4309	0.4393	84.5%	0.1235	0.1104	0.1228	
2	07:16:03	0.3817	89.1%	89.9%	0.4259	0.4317	86.1%	0.1127	0.1094	0.1129	
3	07:16:35	0.3740	89.4%	90.2%	0.4175	0.4162	86.8%	0.1157	0.1126	0.1150	
x		0.3870	89.3%	89.5%	0.4248	0.4291	85.8%	0.1173	0.1108	0.1169	
σ		0.0162	0.2%	1.1%	0.0067	0.0118	1.2%	0.0056	0.0016	0.0052	
%RSD		4.1987	0.2	1.2	1.5889	2.7455	1.4	4.7889	1.4756	4.4524	

K1610116-002L 10/11/2016 7:19:05 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:19:05	107.3%	0.6899	0.3073	0.2460	0.6330	0.6442	99.2%	0.2052	0.9903	0.8618
2	07:19:38	106.6%	0.7104	0.2986	0.2331	0.6491	0.6463	101.0%	0.1576	1.1930	0.8216
3	07:20:10	106.2%	0.7151	0.3244	0.2513	0.6112	0.6317	100.9%	0.1026	1.2344	0.7682
x		106.7%	0.7051	0.3101	0.2435	0.6311	0.6407	100.4%	0.1551	1.1392	0.8172
σ		0.6%	0.0134	0.0131	0.0094	0.0190	0.0079	1.0%	0.0514	0.1307	0.0470
%RSD		0.5	1.8987	4.2394	3.8406	3.0185	1.2321	1.0	33.1079	11.4686	5.7457
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:19:05	0.2235	95.4%	93.0%	0.1438	0.1513	84.4%	0.0999	0.0915	0.0995	
2	07:19:38	0.2049	97.2%	94.0%	0.1429	0.1668	87.0%	0.0916	0.0917	0.0915	
3	07:20:10	-0.0237	96.6%	94.7%	0.1593	0.1516	87.8%	0.0921	0.0845	0.0927	
x		0.1349	96.4%	93.9%	0.1487	0.1566	86.4%	0.0946	0.0892	0.0946	
σ		0.1377	0.9%	0.8%	0.0092	0.0089	1.8%	0.0047	0.0041	0.0043	
%RSD		102.0668	1.0	0.9	6.1824	5.6548	2.0	4.9341	4.5981	4.5818	

K1610116-002A 10/11/2016 7:22:41 AM

User Pre-dilution: 1.000

X 50 ppb

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:22:41	99.4%	51.5415	49.0650	49.8176	51.6411	51.5232	89.6%	53.3625	56.7407	53.0294
2	07:23:13	97.5%	51.6687	49.9459	49.4906	51.4543	50.6983	89.6%	53.1980	55.4357	52.6031
3	07:23:46	96.4%	50.9629	49.4860	49.2977	51.7878	51.4225	88.3%	53.3669	56.5779	52.3727
X		97.8%	51.3910	49.4989	49.5353	51.6277	51.2147	89.2%	53.3092	56.2514	52.6684
σ		1.5%	0.3762	0.4406	0.2628	0.1671	0.4500	0.8%	0.0963	0.7111	0.3332
%RSD		1.5	0.7320	0.8901	0.5305	0.3238	0.8786	0.9	0.1806	1.2642	0.6326
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:22:41	52.7422	85.7%	87.2%	53.2425	53.3601	83.1%	49.4044	49.7064	49.4481	
2	07:23:13	51.8049	86.3%	88.8%	52.5118	52.8086	84.9%	49.5461	49.7015	49.5797	
3	07:23:46	53.6159	85.6%	88.1%	52.8737	52.8329	85.3%	49.0520	49.2828	49.0651	
X		52.7210	85.9%	88.0%	52.8760	53.0005	84.4%	49.3342	49.5636	49.3643	
σ		0.9057	0.4%	0.8%	0.3653	0.3117	1.2%	0.2544	0.2432	0.2673	
%RSD		1.7179	0.4	0.9	0.6909	0.5880	1.4	0.5156	0.4907	0.5415	

K1610116-002S 10/11/2016 7:26:26 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:26:26	98.4%	5.2620	24.7921	24.8161	14.9458	14.8729	87.5%	55.1285	57.6970	54.7960
2	07:26:59	94.1%	5.5057	25.2481	25.3530	14.7317	15.1053	88.5%	54.7215	58.1589	55.0405
3	07:27:31	95.9%	5.3212	25.2127	24.5801	14.7815	14.8466	88.2%	54.4271	58.8518	54.1473
X		96.1%	5.3630	25.0843	24.9164	14.8197	14.9416	88.1%	54.7590	58.2359	54.6613
σ		2.1%	0.1271	0.2536	0.3961	0.1121	0.1424	0.5%	0.3522	0.5812	0.4616
%RSD		2.2	2.3694	1.0111	1.5896	0.7561	0.9530	0.6	0.6432	0.9981	0.8444
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:26:26	55.4985	84.3%	84.0%	53.8621	54.0037	82.2%	50.3454	52.2022	50.4555	
2	07:26:59	54.2131	85.2%	86.0%	53.3919	53.1398	84.9%	49.5761	51.5541	49.6675	
3	07:27:31	53.4520	85.1%	86.6%	53.3148	53.2364	85.1%	49.5566	51.7245	49.6792	
X		54.3879	84.9%	85.5%	53.5229	53.4600	84.1%	49.8260	51.8269	49.9341	
σ		1.0344	0.5%	1.3%	0.2963	0.4733	1.7%	0.4499	0.3360	0.4516	
%RSD		1.9019	0.6	1.6	0.5535	0.8854	2.0	0.9029	0.6482	0.9044	

K1610116-002SD 10/11/2016 7:30:20 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:30:20	97.4%	5.1399	24.8852	24.2051	14.4681	14.4700	88.0%	52.8066	56.8325	52.4070
2	07:30:52	97.6%	5.0059	24.8673	24.7936	14.6952	14.7339	87.8%	54.0457	57.2001	53.1693
3	07:31:25	96.6%	5.1595	24.5582	24.1613	14.5254	14.5218	88.5%	53.6864	55.4852	53.1211
X		97.2%	5.1018	24.7703	24.3867	14.5629	14.5752	88.1%	53.5129	56.5059	52.8991
σ		0.5%	0.0836	0.1838	0.3531	0.1181	0.1398	0.4%	0.6375	0.9029	0.4269
%RSD		0.5	1.6387	0.7421	1.4480	0.8111	0.9591	0.4	1.1913	1.5978	0.8070
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:30:20	52.7386	83.7%	85.0%	51.8046	51.8295	82.4%	48.7096	50.6572	48.7840	
2	07:30:52	55.1887	85.2%	85.9%	52.4177	51.8728	84.1%	48.7942	50.8915	48.9157	
3	07:31:25	53.0693	85.3%	86.6%	51.9687	51.4686	84.6%	49.2444	50.6148	49.3028	
X		53.6655	84.7%	85.8%	52.0636	51.7236	83.7%	48.9161	50.7211	49.0008	
σ		1.3294	0.9%	0.8%	0.3174	0.2219	1.1%	0.2875	0.1491	0.2697	
%RSD		2.4772	1.1	0.9	0.6096	0.4291	1.3	0.5876	0.2939	0.5504	

K1610116-003 10/11/2016 7:34:13 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:34:13	94.6%	2.9963	1.1343	0.8006	2.7979	2.8262	85.4%	0.6201	4.5664	0.5639
2	07:34:46	93.3%	2.9567	1.1366	0.7612	2.8306	2.8482	84.9%	0.6347	4.5807	0.5844
3	07:35:18	95.3%	2.8949	1.1254	0.7578	2.7972	2.7433	85.8%	0.6772	4.5222	0.6940
x		94.4%	2.9493	1.1321	0.7732	2.8086	2.8059	85.4%	0.6440	4.5564	0.6141
σ		1.0%	0.0511	0.0059	0.0238	0.0191	0.0553	0.5%	0.0297	0.0305	0.0699
%RSD		1.1	1.7329	0.5224	3.0744	0.6799	1.9715	0.6	4.6075	0.6699	11.3880
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:34:13	0.3634	81.8%	82.6%	0.4390	0.4396	81.2%	0.1301	0.1141	0.1286	
2	07:34:46	0.3883	82.5%	83.3%	0.4296	0.4401	82.1%	0.1214	0.1203	0.1213	
3	07:35:18	0.5311	82.8%	84.3%	0.4470	0.4286	82.8%	0.1316	0.1271	0.1307	
x		0.4276	82.4%	83.4%	0.4385	0.4361	82.0%	0.1277	0.1205	0.1269	
σ		0.0905	0.5%	0.8%	0.0087	0.0065	0.8%	0.0055	0.0065	0.0049	
%RSD		21.1736	0.6	1.0	1.9844	1.4807	1.0	4.3050	5.4142	3.8792	

K1610116-004 10/11/2016 7:37:49 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:37:49	90.0%	0.0140	0.9567	0.4857	1.5758	1.7078	80.7%	0.7772	4.8472	0.7165
2	07:38:22	89.4%	0.0070	0.9487	0.4052	1.5745	1.6445	81.3%	0.9488	4.2688	0.7557
3	07:38:54	86.6%	0.0117	0.8646	0.4135	1.6128	1.6490	80.0%	0.8589	4.5348	0.7318
x		88.7%	0.0109	0.9233	0.4348	1.5877	1.6671	80.6%	0.8617	4.5503	0.7347
σ		1.8%	0.0036	0.0510	0.0443	0.0217	0.0354	0.7%	0.0858	0.2895	0.0198
%RSD		2.1	32.9561	5.5245	10.1786	1.3697	2.1205	0.8	9.9616	6.3628	2.6923
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:37:49	1.3128	77.8%	79.0%	0.3895	0.4100	79.2%	0.0999	0.1059	0.1004	
2	07:38:22	1.2622	77.9%	79.4%	0.3867	0.3765	80.7%	0.1153	0.0979	0.1149	
3	07:38:54	1.1750	77.3%	79.3%	0.3904	0.3827	81.4%	0.1110	0.1138	0.1105	
x		1.2500	77.7%	79.2%	0.3889	0.3897	80.4%	0.1088	0.1059	0.1086	
σ		0.0697	0.3%	0.2%	0.0019	0.0178	1.1%	0.0079	0.0079	0.0074	
%RSD		5.5776	0.4	0.3	0.4927	4.5733	1.4	7.3069	7.5082	6.8440	

CCV2 10/11/2016 7:41:23 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:41:23	96.6%	24.9959	24.8798	25.1237	24.4583	25.0166	87.9%	25.8739	25.8642	26.1006
2	07:41:55	95.5%	25.2338	24.5042	24.7975	24.8284	24.6928	89.7%	25.5248	25.7904	25.9016
3	07:42:28	96.9%	24.4585	24.4513	25.2043	24.7818	24.9066	89.4%	25.7214	26.0856	25.8281
x		96.3%	24.8961	24.6118	25.0418	24.6895	24.8720	89.0%	25.7067	25.9134	25.9434
σ		0.7%	0.3972	0.2336	0.2154	0.2016	0.1646	0.9%	0.1750	0.1537	0.1410
%RSD		0.7	1.5953	0.9492	0.8603	0.8164	0.6620	1.1	0.6808	0.5930	0.5435
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:41:23	26.4272	85.8%	85.8%	25.1955	25.5468	81.3%	24.8122	24.8217	24.8001	
2	07:41:55	26.2884	86.5%	87.2%	25.6716	25.6266	83.1%	24.6796	24.6994	24.6808	
3	07:42:28	25.7016	86.0%	86.4%	26.1205	25.9544	83.5%	24.7230	24.7656	24.7075	
x		26.1391	86.1%	86.5%	25.6625	25.7093	82.6%	24.7383	24.7622	24.7295	
σ		0.3852	0.4%	0.7%	0.4626	0.2160	1.2%	0.0676	0.0612	0.0626	
%RSD		1.4736	0.4	0.8	1.8026	0.8402	1.4	0.2733	0.2473	0.2533	

CCB2 10/11/2016 7:48:02 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:48:02	97.0%	-0.0018	0.0128	0.0466	-0.0001	-0.0002	84.1%	0.0001	0.0504	0.2311
2	07:48:34	95.0%	-0.0026	0.0101	0.0098	0.0032	0.0003	86.9%	-0.0172	0.0657	0.0928
3	07:49:07	97.6%	-0.0049	0.0091	0.0404	0.0000	0.0001	87.6%	0.0042	0.0638	0.4258
x		96.5%	-0.0031	0.0107	0.0323	0.0010	0.0001	86.2%	-0.0043	0.0600	0.2499
σ		1.3%	0.0016	0.0019	0.0197	0.0019	0.0003	1.8%	0.0114	0.0083	0.1673
%RSD		1.4	52.1968	17.8111	61.1108	179.2866	304.5460	2.1	262.6356	13.8702	66.9444
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:48:02	0.0190	81.9%	80.4%	0.0089	0.0083	77.7%	0.0015	0.0007	0.0014	
2	07:48:34	-0.0467	83.7%	82.9%	0.0060	0.0072	79.5%	-0.0009	0.0024	-0.0007	
3	07:49:07	0.0412	84.7%	83.4%	0.0074	0.0090	80.4%	0.0004	0.0010	0.0003	
x		0.0045	83.4%	82.2%	0.0075	0.0082	79.2%	0.0003	0.0014	0.0004	
σ		0.0457	1.4%	1.6%	0.0015	0.0009	1.4%	0.0012	0.0009	0.0010	
%RSD		1015.0665	1.7	2.0	19.6712	11.2111	1.8	382.1641	64.6124	287.0659	

K1610116-001 DISS 10/11/2016 7:51:27 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:51:27	92.1%	0.0058	1.2155	0.9004	6.4603	6.5613	80.8%	1.8097	3.9414	0.1932
2	07:52:00	89.7%	0.0119	1.2438	0.9218	6.4576	6.5150	81.3%	1.9241	4.0913	0.4736
3	07:52:32	91.7%	0.0151	1.2165	0.9472	6.3874	6.5580	82.5%	2.0502	3.4685	0.3150
x		91.2%	0.0110	1.2252	0.9231	6.4351	6.5448	81.6%	1.9280	3.8337	0.3273
σ		1.3%	0.0047	0.0161	0.0234	0.0413	0.0258	0.9%	0.1203	0.3250	0.1406
%RSD		1.4	43.0927	1.3111	2.5385	0.6424	0.3943	1.1	6.2394	8.4781	42.9664
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:51:27	0.3507	77.5%	78.4%	1.3813	1.3782	78.6%	0.2884	0.2712	0.2879	
2	07:52:00	0.6977	79.3%	79.9%	1.3774	1.3710	80.3%	0.2825	0.2743	0.2807	
3	07:52:32	0.4843	80.4%	81.0%	1.3670	1.3616	80.9%	0.2811	0.2703	0.2799	
x		0.5109	79.1%	79.8%	1.3752	1.3702	79.9%	0.2840	0.2719	0.2828	
σ		0.1750	1.4%	1.3%	0.0074	0.0083	1.2%	0.0039	0.0021	0.0044	
%RSD		34.2612	1.8	1.6	0.5370	0.6078	1.5	1.3746	0.7722	1.5553	

K1610116-002 DISS 10/11/2016 7:55:07 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:55:07	93.2%	2.8433	1.0290	0.7331	2.5044	2.4558	85.0%	0.5158	4.2468	0.4471
2	07:55:40	94.7%	2.9177	1.1022	0.7150	2.5654	2.4914	86.0%	0.6660	3.6391	0.5464
3	07:56:12	94.4%	2.7752	1.0715	0.6847	2.5594	2.5266	85.6%	0.7628	3.9396	0.9015
x		94.1%	2.8454	1.0676	0.7109	2.5430	2.4913	85.5%	0.6482	3.9419	0.6317
σ		0.8%	0.0713	0.0368	0.0245	0.0336	0.0354	0.5%	0.1244	0.3039	0.2389
%RSD		0.9	2.5049	3.4426	3.4434	1.3220	1.4207	0.6	19.1941	7.7088	37.8194
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:55:07	0.2832	81.1%	82.4%	0.4616	0.4595	80.5%	0.0702	0.0754	0.0706	
2	07:55:40	0.2219	82.4%	84.0%	0.4614	0.4493	82.5%	0.0792	0.0759	0.0788	
3	07:56:12	0.6764	83.7%	83.7%	0.4668	0.4726	83.3%	0.0731	0.0755	0.0733	
x		0.3938	82.4%	83.4%	0.4633	0.4605	82.1%	0.0742	0.0756	0.0742	
σ		0.2466	1.3%	0.8%	0.0031	0.0117	1.4%	0.0046	0.0003	0.0042	
%RSD		62.6272	1.6	1.0	0.6620	2.5405	1.7	6.1410	0.3326	5.6269	

K1610116-002S DISS 10/11/2016 7:58:43 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:58:43	95.1%	5.2208	24.9889	25.3812	14.7764	14.9198	86.5%	55.1728	56.4567	54.8791
2	07:59:16	96.5%	5.2003	25.3985	25.0158	14.5850	14.7458	87.3%	55.5196	57.4331	54.0991
3	07:59:48	94.9%	5.2424	25.2761	25.1349	14.7270	14.8734	86.5%	55.4231	56.4244	55.4512
x		95.5%	5.2212	25.2212	25.1773	14.6961	14.8463	86.8%	55.3718	56.7714	54.8098
σ		0.8%	0.0210	0.2103	0.1864	0.0994	0.0901	0.4%	0.1790	0.5733	0.6787
%RSD		0.9	0.4031	0.8337	0.7402	0.6764	0.6067	0.5	0.3233	1.0098	1.2383
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:58:43	54.7810	83.3%	84.0%	53.6839	53.1023	82.4%	49.4201	51.2938	49.4887	
2	07:59:16	55.1394	84.8%	85.5%	53.4622	53.3720	84.2%	49.5808	51.5992	49.6979	
3	07:59:48	54.9484	85.2%	86.1%	53.0427	52.4355	84.1%	49.7563	51.8330	49.8649	
x		54.9563	84.4%	85.2%	53.3963	52.9699	83.6%	49.5858	51.5753	49.6838	
σ		0.1793	1.0%	1.1%	0.3257	0.4821	1.0%	0.1681	0.2704	0.1885	
%RSD		0.3263	1.2	1.3	0.6099	0.9101	1.2	0.3391	0.5242	0.3793	

K1610116-002SD DISS 10/11/2016 8:02:49 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:02:49	93.7%	5.2297	25.4775	25.2839	14.7685	14.9375	86.4%	55.1771	57.6217	54.2632
2	08:03:22	91.7%	5.4136	25.4679	25.3477	14.7433	14.7532	86.8%	54.6080	58.2710	55.5323
3	08:03:54	94.1%	5.2106	25.0340	25.0351	14.7043	14.7598	86.8%	54.6393	58.7821	53.8830
x		93.2%	5.2846	25.3265	25.2222	14.7387	14.8168	86.7%	54.8081	58.2249	54.5595
σ		1.3%	0.1121	0.2533	0.1652	0.0324	0.1046	0.2%	0.3199	0.5816	0.8637
%RSD		1.4	2.1211	1.0002	0.6550	0.2196	0.7057	0.2	0.5837	0.9989	1.5830
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:02:49	54.8104	83.0%	83.4%	53.6218	52.9256	81.7%	49.7110	51.8122	49.8377	
2	08:03:22	54.8158	83.5%	84.3%	53.6162	53.6909	83.6%	50.0981	51.9407	50.1929	
3	08:03:54	55.2290	83.5%	84.7%	53.7273	53.1593	84.1%	49.7322	51.8745	49.8489	
x		54.9517	83.3%	84.1%	53.6551	53.2586	83.2%	49.8471	51.8758	49.9598	
σ		0.2401	0.3%	0.7%	0.0626	0.3922	1.3%	0.2176	0.0643	0.2019	
%RSD		0.4370	0.4	0.8	0.1167	0.7364	1.5	0.4366	0.1239	0.4042	

K1610116-003 DISS 10/11/2016 8:06:44 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:06:44	92.2%	2.5966	1.1198	0.7519	2.5082	2.4770	83.1%	0.6774	4.6811	0.3844
2	08:07:16	92.4%	2.5559	1.1225	0.7060	2.4663	2.4087	83.5%	0.7405	4.3785	0.5042
3	08:07:49	90.5%	2.5532	1.1115	0.6557	2.4711	2.5524	83.8%	0.6732	4.1429	0.6250
x		91.7%	2.5686	1.1179	0.7045	2.4819	2.4793	83.5%	0.6970	4.4008	0.5045
σ		1.1%	0.0243	0.0057	0.0481	0.0230	0.0719	0.4%	0.0377	0.2698	0.1203
%RSD		1.2	0.9462	0.5121	6.8318	0.9248	2.8987	0.4	5.4154	6.1300	23.8373
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:06:44	0.6517	79.9%	80.9%	0.5033	0.4977	80.0%	0.0976	0.0949	0.0972	
2	08:07:16	0.5103	81.9%	82.8%	0.4987	0.5151	81.7%	0.0969	0.0857	0.0965	
3	08:07:49	0.3869	80.6%	82.0%	0.5207	0.4987	81.8%	0.0907	0.0893	0.0906	
x		0.5163	80.8%	81.9%	0.5076	0.5038	81.2%	0.0951	0.0900	0.0948	
σ		0.1325	1.0%	1.0%	0.0116	0.0097	1.0%	0.0038	0.0046	0.0036	
%RSD		25.6667	1.3	1.2	2.2901	1.9338	1.3	4.0043	5.1169	3.8200	

K1610116-004 DISS 10/11/2016 8:10:20 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:10:20	87.2%	0.0109	1.0468	0.5496	1.8591	1.9358	78.4%	0.8948	4.3066	1.0379
2	08:10:53	86.2%	0.0072	1.0028	0.5584	1.8535	1.8842	78.6%	0.9883	4.4200	0.6410
3	08:11:25	86.6%	0.0065	1.0215	0.5998	1.7419	1.8193	79.8%	0.8706	4.0923	0.5107
x		86.7%	0.0082	1.0237	0.5693	1.8181	1.8797	79.0%	0.9179	4.2730	0.7299
σ		0.5%	0.0024	0.0221	0.0268	0.0661	0.0584	0.8%	0.0622	0.1664	0.2746
%RSD		0.5	29.1540	2.1561	4.7102	3.6367	3.1069	1.0	6.7749	3.8941	37.6191
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:10:20	1.3906	76.4%	77.5%	0.6737	0.6791	78.3%	0.1106	0.0970	0.1097	
2	08:10:53	1.3987	76.2%	78.4%	0.6751	0.6506	80.3%	0.0991	0.1053	0.0996	
3	08:11:25	0.9841	77.2%	79.6%	0.6424	0.6177	81.5%	0.1011	0.1013	0.1018	
x		1.2578	76.6%	78.5%	0.6637	0.6491	80.0%	0.1036	0.1012	0.1037	
σ		0.2371	0.5%	1.1%	0.0185	0.0308	1.6%	0.0061	0.0042	0.0053	
%RSD		18.8493	0.7	1.4	2.7841	4.7388	2.0	5.9337	4.1256	5.1389	

K1610299-001 10/11/2016 8:14:00 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:14:00	87.1%	0.0058	0.9376	0.6411	2.2098	2.2306	77.9%	0.9687	3.7430	0.0931
2	08:14:34	87.6%	0.0108	0.9541	0.6572	2.2088	2.2420	78.2%	0.9170	3.7119	0.2118
3	08:15:06	86.4%	0.0042	0.9438	0.6465	2.1907	2.3271	78.1%	0.9117	3.7566	0.0725
x		87.0%	0.0070	0.9452	0.6483	2.2031	2.2666	78.0%	0.9325	3.7372	0.1258
σ		0.6%	0.0034	0.0083	0.0082	0.0107	0.0527	0.2%	0.0315	0.0229	0.0751
%RSD		0.7	49.2943	0.8783	1.2614	0.4866	2.3270	0.2	3.3728	0.6125	59.7312
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:14:00	0.7732	76.2%	77.3%	0.3615	0.3470	78.7%	0.0708	0.0651	0.0702	
2	08:14:34	0.5380	76.8%	78.4%	0.3597	0.3552	79.6%	0.0683	0.0705	0.0683	
3	08:15:06	0.6018	76.5%	78.0%	0.3600	0.3388	79.9%	0.0700	0.0717	0.0697	
x		0.6377	76.5%	77.9%	0.3604	0.3470	79.4%	0.0697	0.0691	0.0694	
σ		0.1216	0.3%	0.6%	0.0010	0.0082	0.6%	0.0013	0.0035	0.0010	
%RSD		19.0762	0.4	0.7	0.2705	2.3659	0.8	1.8384	5.0752	1.4628	

K1610299-001 DISS 10/11/2016 8:17:36 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:17:36	86.8%	0.0048	1.1360	0.8405	3.0814	3.1980	78.3%	1.0184	3.5488	0.2922
2	08:18:08	83.3%	0.0067	1.0731	0.7937	3.0849	3.0444	79.5%	1.0575	3.5435	0.4662
3	08:18:41	85.6%	-0.0002	1.1271	0.8284	3.1402	3.0296	78.3%	0.9874	3.6108	0.6881
x		85.2%	0.0037	1.1121	0.8208	3.1022	3.0907	78.7%	1.0211	3.5677	0.4821
σ		1.8%	0.0036	0.0341	0.0243	0.0330	0.0932	0.7%	0.0351	0.0375	0.1985
%RSD		2.1	95.6015	3.0637	2.9610	1.0630	3.0163	0.9	3.4398	1.0497	41.1633
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:17:36	0.4774	76.0%	77.6%	0.6263	0.6162	78.2%	0.0679	0.0674	0.0682	
2	08:18:08	0.5642	77.9%	79.1%	0.6382	0.6109	80.1%	0.0684	0.0700	0.0687	
3	08:18:41	0.4105	78.1%	79.0%	0.6235	0.5978	81.6%	0.0741	0.0635	0.0738	
x		0.4840	77.3%	78.6%	0.6293	0.6083	80.0%	0.0701	0.0670	0.0702	
σ		0.0771	1.2%	0.9%	0.0078	0.0095	1.7%	0.0034	0.0033	0.0031	
%RSD		15.9212	1.5	1.1	1.2387	1.5585	2.2	4.9156	4.8657	4.4130	

CCV3 10/11/2016 8:21:11 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:21:11	94.2%	24.4796	24.4041	24.6337	24.7708	24.9705	86.0%	25.2418	26.4098	26.8560
2	08:21:43	92.1%	24.9397	24.7315	24.4546	24.9983	24.9644	88.0%	25.8188	25.6285	26.2355
3	08:22:16	92.1%	24.8466	24.6543	25.1321	25.1297	25.0170	86.6%	25.9629	25.8420	26.1523
x		92.8%	24.7553	24.5966	24.7401	24.9663	24.9840	86.9%	25.6745	25.9601	26.4146
σ		1.2%	0.2433	0.1711	0.3511	0.1816	0.0288	1.0%	0.3816	0.4038	0.3845
%RSD		1.3	0.9828	0.6958	1.4190	0.7273	0.1151	1.2	1.4862	1.5556	1.4557
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:21:11	25.6017	84.4%	83.5%	25.7368	25.8408	80.4%	24.8493	24.8922	24.8445	
2	08:21:43	26.5090	84.7%	86.2%	25.4399	25.6399	82.5%	24.5916	24.8415	24.5869	
3	08:22:16	26.3691	85.4%	85.5%	25.6606	25.7761	82.7%	24.8608	24.9096	24.8423	
x		26.1599	84.8%	85.0%	25.6124	25.7523	81.9%	24.7672	24.8811	24.7579	
σ		0.4885	0.5%	1.4%	0.1542	0.1026	1.3%	0.1522	0.0354	0.1481	
%RSD		1.8674	0.6	1.6	0.6021	0.3983	1.6	0.6147	0.1422	0.5983	

CCB3 10/11/2016 8:27:43 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:27:43	94.4%	-0.0057	0.0058	0.0565	-0.0005	0.0017	81.1%	-0.0659	0.0928	0.4194
2	08:28:15	95.4%	-0.0047	0.0214	0.0441	-0.0066	0.0018	82.9%	-0.0200	0.1444	0.4918
3	08:28:48	93.3%	-0.0083	0.0192	0.0511	-0.0034	-0.0028	83.5%	0.0016	0.0181	0.2262
x		94.4%	-0.0062	0.0155	0.0506	-0.0035	0.0002	82.5%	-0.0281	0.0851	0.3792
σ		1.1%	0.0018	0.0085	0.0062	0.0030	0.0026	1.2%	0.0345	0.0635	0.1373
%RSD		1.1	29.2840	54.7066	12.2991	86.3502	1117.3202	1.5	122.6215	74.6249	36.2095
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:27:43	-0.1934	79.7%	77.8%	0.0065	0.0094	76.2%	0.0008	0.0031	0.0009	
2	08:28:15	0.0112	81.1%	80.4%	0.0074	0.0083	77.9%	0.0009	0.0032	0.0009	
3	08:28:48	-0.0306	81.6%	80.8%	0.0082	0.0059	78.4%	0.0036	0.0031	0.0035	
x		-0.0709	80.8%	79.6%	0.0074	0.0078	77.5%	0.0018	0.0031	0.0017	
σ		0.1081	1.0%	1.6%	0.0008	0.0018	1.2%	0.0016	0.0000	0.0015	
%RSD		152.4604	1.2	2.0	11.1071	22.9877	1.5	88.5786	1.2669	85.9291	

LLCCVW 10/11/2016 8:30:55 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:30:55	93.8%	0.0225	0.2195	0.2732	0.1012	0.1095	82.1%	0.7135	1.0311	1.4010
2	08:31:27	96.1%	0.0138	0.2317	0.2464	0.1086	0.1002	83.3%	0.5363	0.9775	1.4699
3	08:32:00	93.9%	0.0124	0.2401	0.2253	0.0980	0.1126	84.3%	0.5395	1.0116	1.3027
x		94.6%	0.0162	0.2304	0.2483	0.1026	0.1074	83.2%	0.5964	1.0067	1.3912
σ		1.3%	0.0055	0.0104	0.0240	0.0054	0.0065	1.1%	0.1014	0.0271	0.0840
%RSD		1.4	33.7266	4.5057	9.6781	5.2760	6.0259	1.3	16.9958	2.6962	6.0413
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:30:55	1.5481	79.9%	78.2%	0.0594	0.0533	76.6%	0.0208	0.0214	0.0209	
2	08:31:27	0.9855	82.1%	80.2%	0.0618	0.0524	77.8%	0.0188	0.0268	0.0193	
3	08:32:00	1.0025	82.2%	80.7%	0.0564	0.0574	78.5%	0.0228	0.0232	0.0228	
x		1.1787	81.4%	79.7%	0.0592	0.0544	77.6%	0.0208	0.0238	0.0210	
σ		0.3200	1.3%	1.3%	0.0027	0.0027	1.0%	0.0020	0.0027	0.0018	
%RSD		27.1533	1.6	1.6	4.5590	4.9143	1.3	9.6833	11.5396	8.4773	



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November 11, 2016

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SUBJECT: Fort Bliss, Castner Range, Data Validation

(b) (6)

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on September 25, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #37346:

<u>SDG #</u>	<u>Fraction:</u>
K1610116	Metals
K1610299	

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Quality Assurance Project Plan, Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas, February 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, 5.0, July 2013
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

(b) (6)

[illegible]

**Data Validation Report
Fort Bliss, Castner Range**

SDGs: K1610116, K1610299

Prepared for

Arcadis U.S., Inc.
401 E. Main Street, Suite 400
El Paso, TX 79901

Prepared by

Laboratory Data Consultants, Inc.
2701 Loker Ave West, Suite 220
Carlsbad, CA 92010

November 10, 2016

INTRODUCTION

This Data Validation Report (DVR) presents Level III and IV data validation results for samples collected during the August through September 2016 sampling period. Data validation was performed in accordance with the Final Quality Assurance Project Plan (QAPP), Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas (February 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and the USEPA CLPNFG Inorganic Superfund Data Review (October 2004). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Metals by EPA SW 846 Method 6020A

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment 2. Level III Automated Data Review outliers are presented in Enclosure I. DVRs for samples on which Level IV validation was performed are presented in Enclosure II.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, instrument performance check, initial and continuing calibrations, laboratory blanks, initial and continuing calibration blanks (ICB/CCBs), equipment blanks, interference check (ICSA and ICSAB) samples, matrix spike/matrix spike duplicates (MS/MSD), serial dilution, laboratory control sample (LCS), field duplicate samples, and internal standards. Approximately 20 percent of samples were subjected to Level IV evaluation as indicated in Attachment 1, which comprised a review of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the instrument performance check, calibrations, interference check samples, ICB/CCBs, serial dilution, and internal standards which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP, DoD QSM and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detect at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NJ (Presumptive). Presumptive evidence of presence of the compound at an estimated quantity.
- NA (Not applicable): Data did not warrant qualification since detected results only are affected and the compound was not detected in the associated samples.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt & Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Instrument Performance Check

Instrument performance was checked at the frequency required by the method.

All criteria for the instrument performance check were met.

III. Initial Calibration and Initial Calibration Verification

All criteria for the initial calibration and initial calibration verifications of the method were met.

IV. Continuing Calibration

All criteria for the continuing calibration verifications (CCV) of the method were met.

V. Laboratory Blanks

Laboratory blanks were performed as required by the method. No contaminant concentrations were detected in the method blanks reviewed by ADR.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the following exceptions:

SDG/ Method	Blank ID	Analyte	Maximum Concentration	Associated Samples
K1610116/ 6020A	ICB/CCB	Antimony	0.007 ug/L	FTBL-SP-01-082416 FTBL-SP-03-082916 FD082916 FTBL-SP-05-082916
K1610116/ 6020A	ICB/CCB	Antimony	0.008 ug/L	FTBL-SP-01-082416F FTBL-SP-03-082916F FD082916F FTBL-SP-05-082916F
K1610299/ 6020A	ICB/CCB	Antimony	0.008 ug/L	All samples in SDG K1610299

Sample concentrations were compared to concentrations detected in the initial or continuing calibration blanks. The sample concentrations were not detected or were significantly greater than the concentrations found in the associated blanks, therefore no data were qualified.

VI. Field Blanks

No field blanks were identified in these SDGs.

VII. ICP Interference Check Sample (ICS) Analysis

The frequency of ICS analysis was met.

The criteria for ICS analysis were met.

VIII. Surrogates

Surrogates were not required by the method.

IX. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed on an associated project sample. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

X. Duplicate Sample Analysis/Triplicate Sample Analysis

The laboratory has indicated that there were no duplicates (DUP) and triplicate (TRP) analyses specified for the samples in these SDGs, and therefore duplicate and triplicate analyses were not performed.

XI. Serial Dilution

Serial dilution analysis was performed on an associated project sample. The percent differences (%D) were within QC limits.

XII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XIII. Field Duplicates

One field duplicate pair was collected and analyzed for metals. All RPDs were within QC limits. The field duplicate result comparisons are provided in Enclosure I.

XIV. Internal Standards

All internal standard areas percent recoveries were within QC limits.

XV. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

The results for the dissolved metals sample analysis were greater than the total metals sample analysis as follows:

SDG/Method	Analyte	Concentration (ug/L)	
		FTBL-SP-01-082416	FTBL-SP-01-082416F
K1610116/6020A	Antimony	1.05	1.37
K1610116/6020A	Copper	4.82	6.54

SDG/Method	Analyte	Concentration (ug/L)	
		FTBL-SP-05-082916	FTBL-SP-05-082916F
K1610116/6020A	Antimony	0.390	0.649

SDG/Method	Analyte	Concentration (ug/L)	
		FTBL-SP-07-090116	FTBL-SP-07-090116F
K1610299/6020A	Antimony	0.347	0.608
K1610299/6020A	Copper	2.27	3.09
K1610299/6020A	Zinc	3.62	6.01

All compounds reported below the limit of quantitation (LOQ) as detected by the laboratory were qualified as detected estimated (J). The details regarding the qualification of data are provided in Enclosure I.

XVI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in these SDGs.

Due to results being reported below the LOQ, data were qualified as estimated in three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Data flags are summarized and are presented as Attachment 2

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
24-Aug-2016	FTBL-SP-01-082416	K1610116-001	N	CLFAA	6020A	III
24-Aug-2016	FTBL-SP-01-082416	K1610116-001DISS	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-05-082916	K1610116-004	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-05-082916	K1610116-004DISS	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916	K1610116-002	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916	K1610116-002DISS	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916MSD	K1610116-002DISSDMS	MSD	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916MS	K1610116-002DISSMS	MS	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916MS	K1610116-002MS	MS	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916MSD	K1610116-002SD	MSD	CLFAA	6020A	III
29-Aug-2016	FD082916	K1610116-003	FD	CLFAA	6020A	III
29-Aug-2016	FD082916	K1610116-003DISS	FD	CLFAA	6020A	III
01-Sep-2016	FTBL-SP-07-090116	K1610299-001	N	CLFAA	6020A	IV
01-Sep-2016	FTBL-SP-07-090116	K1610299-001DISS	N	CLFAA	6020A	IV
01-Sep-2016	FTBL-SP-07-090116RE	K1610299-001DISSRE	N	CLFAA	6020A	IV
01-Sep-2016	FTBL-SP-07-090116MS	K1610299-001MS	MS	CLFAA	6020A	IV
01-Sep-2016	FTBL-SP-07-090116MSD	K1610299-001SD	MSD	CLFAA	6020A	IV

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: K1610116, K1610299

Laboratory: ALS_K

EDD Filename: K1610116_SEDD2A_rev,
K1610299_SEDD2A_rev

eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1610116

Method Category: METALS

Method: 6020A

Matrix: Water

Sample ID: FTBL-SP-01-082416 **Collected:** 8/24/2016 12:25:00 PM

Analysis Type: Initial/DIS

Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.011	J	0.020	LOD	0.020	LOQ	ug/L	J	RI

Sample ID: FTBL-SP-05-082916 **Collected:** 8/29/2016 11:30:00 AM

Analysis Type: Initial/DIS

Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.008	J	0.020	LOD	0.020	LOQ	ug/L	J	RI

Sample ID: FTBL-SP-05-082916 **Collected:** 8/29/2016 11:30:00 AM

Analysis Type: Initial/TOT

Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.011	J	0.020	LOD	0.020	LOQ	ug/L	J	RI

SDG: K1610299

Method Category: METALS

Method: 6020A

Matrix: Water

Sample ID: FTBL-SP-07-090116 **Collected:** 9/1/2016 9:30:00 AM

Analysis Type: Initial/TOT

Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.007	J	0.020	LOD	0.020	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

11/10/2016 8:37:20 AM

ADR version 1.9.0.325

Page 1 of 2

Data Qualifier Summary

Lab Reporting Batch ID: K1610116, K1610299

Laboratory: ALS_K

EDD Filename: K1610116_SEDD2A_rev,
K1610299_SEDD2A_rev

eQAPP Name: Arcadis_FtBliss_ALS_160627

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
RI	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

11/10/2016 8:37:20 AM

ADR version 1.9.0.325

Page 2 of 2

Enclosure I
Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

K1610116

Reporting Limit Outliers

Lab Reporting Batch ID: K1610116

Laboratory: ALS_K

EDD Filename: K1610116_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Water

<i>SampleID</i>	<i>Analyte</i>	<i>Lab Qual</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>RL Type</i>	<i>Units</i>	<i>Flag</i>
FTBL-SP-01-082416	BERYLLIUM	J	0.011	0.020	LOQ	ug/L	J (all detects)
FTBL-SP-05-082916	BERYLLIUM	J	0.008	0.020	LOQ	ug/L	J (all detects)

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

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Page 1 of 1

Field Duplicate RPD Report

Lab Reporting Batch ID: K1610116

Laboratory: ALS_K

EDD Filename: K1610116_SEDD2A_rev

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Water

Analyte	Concentration (ug/L)		Sample RPD	eQAPP RPD	Flag
	FTBL-SP-03-082916 (Dissolved)	FD082916 (Dissolved)			
ANTIMONY	0.460	0.504	9	35.00	No Qualifiers Applied
ARSENIC	0.6	0.7	15	35.00	
BERYLLIUM	2.85	2.57	10	35.00	
COPPER	2.49	2.48	0	35.00	
LEAD	0.074	0.095	25	35.00	
NICKEL	1.07	1.12	5	35.00	
Analyte	Concentration (ug/L)		Sample RPD	eQAPP RPD	Flag
	FTBL-SP-03-082916 (Total)	FD082916 (Total)			
ANTIMONY	0.429	0.436	2	35.00	No Qualifiers Applied
ARSENIC	0.7	0.6	15	35.00	
BERYLLIUM	3.03	2.95	3	35.00	
COPPER	2.70	2.81	4	35.00	
LEAD	0.117	0.127	8	35.00	
NICKEL	1.08	1.13	5	35.00	

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

11/10/2016 8:52:29 AM

ADR version 1.9.0.325

Page 1 of 1

LDC #: 37346A4a
 SDG #: K1610116
 Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET **ADR**

Date: 10/1/16

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	/N	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	ICB/CCB only
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	N	
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	A	
X.	Laboratory control samples	N	
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	SW	
XIV.	Overall Assessment of Data	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

Samples appended with F were analyzed as dissolved.

	Client ID	Lab ID	Matrix	Date
1	FTBL-SP-01-082416	K1610116-001	Water	08/24/16
2	FTBL-SP-03-082916	K1610116-002	Water	08/29/16
3	FD082916	K1610116-003	Water	08/29/16
4	FTBL-SP-05-082916	K1610116-004	Water	08/29/16
5	FTBL-SP-01-082416F	K1610116-001F	Water	08/24/16
6	FTBL-SP-03-082916F	K1610116-002F	Water	08/29/16
7	FD082916F	K1610116-003F	Water	08/29/16
8	FTBL-SP-05-082916F	K1610116-004F	Water	08/29/16
9	FTBL-SP-03-082916MS	K1610116-002MS	Water	08/29/16
10	FTBL-SP-03-082916MSD	K1610116-002MSD	Water	08/29/16
11	FTBL-SP-03-082916FMS	K1610116-002FMS	Water	08/29/16
12	FTBL-SP-03-082916FMSD	K1610116-002FMSD	Water	08/29/16
13				
14				

Notes:

(b) (6)

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

(b) (6)

METHOD: Metals (EPA SW 864 Method 6010/6020/7000)

Soil preparation factor applied: _____

Sample Concentration units, unless otherwise noted: _____ ug/L Associated Samples: _____ 1-4

					Sample Identification									
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Blank Action Limit	No Qual.									
Sb			0.007	0.035										

Sample Concentration units, unless otherwise noted: _____ ug/L Associated Samples: _____ 5-8

					Sample Identification									
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Blank Action Limit	No Qual.									
Sb			0.008	0.04										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Sample Result Verification

(b) (6)

METHOD: Metals (EPA SW 846 Method 6010/6020/7000)

[illegible]

Comments: _____

Quality Control Outlier Reports

K1610299

Reporting Limit Outliers

Lab Reporting Batch ID: K1610299

Laboratory: ALS_K

EDD Filename: K1610299_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Water

<i>SampleID</i>	<i>Analyte</i>	<i>Lab Qual</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>RL Type</i>	<i>Units</i>	<i>Flag</i>
FTBL-SP-07-090116	BERYLLIUM	J	0.007	0.020	LOQ	ug/L	J (all detects)

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

11/2/2016 1:50:04 PM

ADR version 1.9.0.325

Page 1 of 1

Enclosure II
Level IV Data Validation Reports

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Fort Bliss, Castner Range

LDC Report Date: November 11, 2016

Parameters: Metals

Validation Level: Level IV

Laboratory: ALS Environmental

Sample Delivery Group (SDG): K1610299

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
FTBL-SP-07-090116	K1610299-001	Water	09/01/16
FTBL-SP-07-090116F	K1610299-001F	Water	09/01/16
FTBL-SP-07-090116MS	K1610299-001MS	Water	09/01/16
FTBL-SP-07-090116MSD	K1610299-001MSD	Water	09/01/16

Samples appended with F were analyzed for dissolved

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Quality Assurance Project Plan, Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas (February 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Inorganic Superfund Data Review (October 2004). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Antimony, Arsenic, Beryllium, Copper, Lead, Nickel, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6020A

All sample results were subjected to Level IV evaluation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias; while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Antimony	0.008 ug/L	All samples in SDG K1610299

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

No field duplicates were identified in this SDG.

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits.

XIII. Sample Result Verification

All sample result verifications were acceptable.

The results for the dissolved metals sample analysis were greater than the total metals sample analysis as follows:

Analyte	Concentration (ug/L)	
	FTBL-SP-07-090116	FTBL-SP-07-090116F
Antimony	0.347	0.608
Copper	2.27	3.09
Zinc	3.62	6.01

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

**Fort Bliss, Castner Range
Metals - Data Qualification Summary - SDG K1610299**

No Sample Data Qualified in this SDG

**Fort Bliss, Castner Range
Metals - Laboratory Blank Data Qualification Summary - SDG K1610299**

No Sample Data Qualified in this SDG

**Fort Bliss, Castner Range
Metals - Field Blank Data Qualification Summary - SDG K1610299**

No Sample Data Qualified in this SDG

LDC #: 37346B4a

VALIDATION COMPLETENESS WORKSHEET

Date: 11/1/16

SDG #: K1610299

Level IV

Page: 1 of 1

Laboratory: ALS Environmental

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	9/1/16
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	ICB/ECB only SD
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	A	MSD = (3.4)
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	A	SER = (1)
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	SW	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

Samples appended with F were analyzed as dissolved.

	Client ID	Lab ID	Matrix	Date
1	FTBL-SP-07-090116	K1610299-001	Water	09/01/16
2	FTBL-SP-07-090116F	K1610299-001F	Water	09/01/16
3	FTBL-SP-07-090116MS	K1610299-001MS	Water	09/01/16
4	FTBL-SP-07-090116MSD	K1610299-001MSD	Water	09/01/16
5				
6				
7				
8				
9				
10				
11				
12				
13				

Notes:

Method: Metals (EPA SW 846 Method 6010B/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	/			
Cooler temperature criteria was met.	/			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	/			
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	/			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	/			
Were the proper number of standards used?	/			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	/			
Were all initial calibration correlation coefficients ≥ 0.995 ?	/			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	/			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		/		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	/			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	/			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	/			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	/			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm RL$ ($\pm 2X RL$ for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.	/			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			
Was an LCS analyzed per extraction batch?	/			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	/			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	/			
If the %Rs were outside the criteria, was a reanalysis performed?	/			
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL (ICP/MS)?	/			
Were all percent differences (%Ds) < 10%?	/			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		/		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target analytes were detected in the field duplicates.			/	
XIII. Field blanks				
Field blanks were identified in this SDG.		/		
Target analytes were detected in the field blanks.			/	

(b) (6)

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

(b) (6)

METHOD: Metals (EPA SW 864 Method 6010/6020/7000)

Soil preparation factor applied: _____

Sample Concentration units, unless otherwise noted: _____ ug/L Associated Samples: _____ All

					Sample Identification									
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Blank Action Limit	No Qual.									
Sb			0.008	0.04										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Sample Result Verification

(b) (6)

METHOD: Metals (EPA SW 846 Method 6010/6020/7000)

[illegible]

Comments: _____

LDC #: 3734684

VALIDATION FINDINGS WORKSHEET **Initial and Continuing Calibration Calculation Verification**

(b) (6)

METHOD: Trace Metals (See cover)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated	Reported	Acceptable (Y/N)
					%R	%R	
	ICP (Initial calibration)						
ICV 6:21	ICP/MS (Initial calibration)	80	2397 ug/L	25 ug/L	96%R	96%R	Y
	CVAA (Initial calibration)						
	ICP (Continuing calibration)						
CCV 7:41	ICP/MS (Continuing calibration)	As	25.71 ug/L	25 ug/L	103%R	103%R	Y
	CVAA (Continuing calibration)						
	GFAA (Initial calibration)						
	GFAA (Continuing calibration)						

Comments: _____

LDC #: 3346B4

VALIDATION FINDINGS WORKSHEET Level IV Recalculation Worksheet

(b) (6)

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation,
Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
ICSPB 6:51	ICP interference check	Cu	51.01 ug/L	50 ug/L	102%R	102%R	Y
LCS 7:06	Laboratory control sample	Be	2.53 ug/L	25 ug/L	101%R	101%R	Y
MS 11:34	Matrix spike	Zn	(SSR-SR) 26.56 ug/L	25 ug/L	106%R	106%R	Y
MSD 11:35	Duplicate	Zn	30.24 ug/L	30.18 ug/L	0.2%RPD	0.2%RPD	Y
SER 11:37	ICP serial dilution	Zn	3.76 ug/L	3.62 ug/L	4%SD	4%SD	Y

Comments: _____

LDC #: 37346849

VALIDATION FINDINGS WORKSHEET

Sample Calculation Verification

(b) (6)

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?

Y	N	N/A	Are results within the calibrated range of the instruments and within the linear range of the ICP?
---	---	-----	--

Y/N	N/A	Are all detection limits below the CRDL?
-----	-----	--

Detected analyte results for (1) Zn were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(\text{RD})(\text{FV})(\text{Dil})}{(\text{In. Vol.})}$$

Recalculation:

RD	=	Raw data concentration
FV	=	Final volume (ml)
In. Vol.	=	Initial volume (ml) or weight (G)
Dil	=	Dilution factor

$$RQ = 3.62 \text{ g/L}$$

[illegible]

Note: _____



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October 18, 2016

Analytical Report for Service Request No: K1610299

(b) (6)

ARCADIS U.S., Inc.
401 East Main Street
Suite 400
El Paso, TX 79901

(b) (6)

astner Firing Range / 06261038.0001.00400

Enclosed are the results of the sample(s) submitted to our laboratory September 02, 2016
For your reference, these analyses have been assigned our service request number **K1610299**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is (b) (6) You may also contact me via (b) (6)

Respectfully submitted,

(b) (6)

ALS Environmental



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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.



Case Narrative

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ALS ENVIRONMENTAL

Client:	ARCADIS U.S., Inc.	Service Request No.:	K1610299
Project:	Closed Castner Firing Range/ 06261038.0001.00400	Date Received:	09/02/16
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample was received for analysis at ALS Environmental on 09/02/16. The sample was received in good condition and consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Total and Dissolved Metals

General Comments:

The dissolved Zinc concentration for sample FTBL-SP-07-090116 was greater than the corresponding total concentration. Direct analysis from the sample bottles (i.e. without digestion) confirmed this. The samples were field filtered, therefore no further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

(b) (6)





TRRP

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Appendix A ALS Kelso-Laboratory Data Package Signature Page

This data package consists of:

- ☒ This signature page, the laboratory review checklist, and the following reportable data:
- ☒ R1 Field chain-of-custody documentation;
- ☒ R2 Sample identification cross-reference;
- ☒ R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- ☒ R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- ☒ R5 Test reports/summary forms for blank samples;
- ☒ R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- ☒ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- ☒ R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- ☒ R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- ☒ R10 Other problems or anomalies.
- ☒ The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable:] [This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature

(b) (6)



Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 10/18/2016			
Project Name: Closed Castner Firing Range				Laboratory Job Number: K1610299			
Reviewer Name: (b) (6)				Prep Batch Number(s): Various			
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW-846 Method 5035?			X		
		If required for the project, TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group				LRC Date: 10/18/2016			
Project Name: Closed Castner Firing Range				Laboratory Job Number: K1610299			
Reviewer Name: (b) (6)				Prep Batch Number(s): Various			
#1	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB)					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning:					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS):					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs):					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results:					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports:					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs):					
		Are laboratory SOPs current and on file for each method performed?	X				

Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Reportable Data	
Laboratory Name: ALS Laboratory Group	LRC Date: 10/18/2016
Project Name: Closed Castner Firing Range	Laboratory Job Number: K1610299
Reviewer Name: (b) (6)	Prep Batch Number(s): Various
ER# ⁵	Description
<p>Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);</p> <p>NA = Not Applicable;</p> <p>NR = Not Reviewed;</p> <p>R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>	



Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

1 of 1

Work Order No.:



Part of the ALS Group A Campbell Brothers Limited Company

KL10299

Project Manager:						(b) (6)								
Client Name:						Arcadis								
Address:						401 East Main Street, Suite 400								
City, State ZIP:						El Paso, Texas 79901								
Email:						(b) (6)								
Phone:						915-433-1761								
Project Name:						Closed Castner Firing Range								
Project Number:						06261038.0001.00400								
Sampler's Name:						(b) (6)								
SAMPLE RECEIPT														
Temperature (°C):								Temp Blank Present						
Received Intact:				Yes No N/A				Wet Ice / Blue Ice						
Cooler Custody Seals:				Yes No N/A				Total Containers:						
Sample Custody Seals:				Yes No N/A										
Sample Identification				Matrix		Date Sampled		Time Sampled		Lab ID		No. of Containers		
FTBL-SR-07-090116				W		9-1-16		0930				2 X X		
Dissolved													Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Tl, V, Zn, Zr	
Total													Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Tl, V, Zn, Zr	
RELINQUISHED BY													RECEIVED BY	

(b) (6)



(b) (6)

Cooler Receipt and Preservation Form

Client Arguedis Service Request K16 10299
Received: 9/2/16 Opened: 9/2/16 By: [Signature] Unloaded: 9/2/16 By: [Signature]

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? one, front
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed
-0.4	-0.4	-	-	0	298		77706386787		

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? Indicate in the table below. NA Y N
If applicable, tissue samples were received: Frozen Partially Thawed Thawed
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head- space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610299
Project No.: 06261038.0001.00400 **Date Collected:** 9/1/2016
Project Name: Closed Castner Firing Range **Date Received:** 9/2/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-07-090116 **Lab Code:** K1610299-001

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.347		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	0.9		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	0.007	J	
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	2.27		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.069		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	0.95		
Zinc	6020A	0.50	0.25	0.08	1.0	10/12/16	10/16/16	3.62		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610299
Project No.: 06261038.0001.00400 **Date Collected:** 9/1/2016
Project Name: Closed Castner Firing Range **Date Received:** 9/2/2016
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: FTBL-SP-07-090116 **Lab Code:** K1610299-001DISS

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.608		
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	1.0		
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	0.020	U	
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	3.09		
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.070		
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	1.11		
Zinc	6020A	0.50	0.25	0.08	1.0	10/12/16	10/16/16	6.01		

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610299
Project No.: 06261038.0001.00400 **Date Collected:**
Project Name: Closed Castner Firing Range **Date Received:**
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: Method Blank **Lab Code:** KQ1611183-01

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Antimony	6020A	0.050	0.012	0.006	1.0	09/13/16	10/11/16	0.012	U	
Arsenic	6020A	0.5	0.3	0.2	1.0	09/13/16	10/11/16	0.3	U	
Beryllium	6020A	0.020	0.020	0.006	1.0	09/13/16	10/11/16	0.020	U	
Copper	6020A	0.10	0.05	0.02	1.0	09/13/16	10/11/16	0.05	U	
Lead	6020A	0.020	0.010	0.004	1.0	09/13/16	10/11/16	0.010	U	
Nickel	6020A	0.20	0.05	0.02	1.0	09/13/16	10/11/16	0.05	U	

Comments:

Metals
- 1 -
INORGANIC ANALYSIS DATA PACKAGE

Client: ARCADIS U.S., Inc. **Service Request:** K1610299
Project No.: 06261038.0001.00400 **Date Collected:**
Project Name: Closed Castner Firing Range **Date Received:**
Matrix: WATER **Units:** ug/L
Basis: NA

Sample Name: Method Blank **Lab Code:** KQ1612913-01

Analyte	Analysis Method	LOQ	LOD	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Zinc	6020A	0.50	0.25	0.08	1.0	10/12/16	10/16/16	0.25	U	

Comments:

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony	25.0	23.9	96	25.0	25.2	101	25.7	103	6020A
Arsenic	25.0	23.2	93	25.0	25.0	100	25.7	103	6020A
Beryllium	2.5	2.4	96	25.0	25.1	100	24.9	100	6020A
Copper	12.5	12.1	97	25.0	25.6	102	24.9	100	6020A
Lead	25.0	23.9	96	25.0	25.2	101	24.7	99	6020A
Nickel	25.0	24.2	97	25.0	25.2	101	24.6	98	6020A
Zinc	25.0	25.9	104	25.0	24.8	99	24.3	97	6020A

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICV Source: Inorganic Ventures

CCV Source: ALS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Antimony				25.0	25.8	103			6020A
Arsenic				25.0	25.7	103			6020A
Beryllium				25.0	24.8	99			6020A
Copper				25.0	25.0	100			6020A
Lead				25.0	24.8	99			6020A
Nickel				25.0	24.6	98			6020A

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATIONClient: ARCADIS U.S., Inc.SDG No.: K1610299Contract: 06261038.0001.00400Lab Code: ALSK

Case No.: _____

SAS No.: _____

Initial Calibration Source: Inorganic VenturesContinuing Calibration Source: ALS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICVW1									
	Antimony	0.054	0.05	108	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Arsenic	0.52	0.5	104	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Beryllium	0.018	0.02	90	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Copper	0.109	0.10	109	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Lead	0.022	0.02	110	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
	Nickel	0.24	0.20	120	80.0 - 120.0	MS	10/11/2016	06:39	101116AMS
LLCCVW1									
	Antimony	0.054	0.05	108	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Arsenic	0.60	0.5	120	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Beryllium	0.016	0.02	80	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Copper	0.107	0.10	107	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Lead	0.021	0.02	105	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
	Nickel	0.23	0.20	115	70.0 - 130.0	MS	10/11/2016	08:30	101116AMS
LLICVW1									
	Zinc	0.556	0.500	111	80.0 - 120.0	MS	10/16/2016	11:20	101616b
LLCCVW1									
	Zinc	0.557	0.500	111	70.0 - 130.0	MS	10/16/2016	11:41	101616b

Metals

- 3 -
BLANKS

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Method
		C	1	C	2	C	3	C	
Antimony	0.007	J	0.006	U	0.008	J	0.008	J	6020A
Arsenic	0.2	U	0.2	U	0.2	U	0.2	U	6020A
Beryllium	0.006	U	0.006	U	0.006	U	-0.006	J	6020A
Copper	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Lead	0.004	U	0.004	U	0.004	U	0.004	U	6020A
Nickel	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Zinc	0.08	U	0.08	U	0.08	U			6020A

Metals

- 4 -

ICP INTERFERENCE CHECK SAMPLE

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICP ID Number: K-ICP-MS-03

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Antimony	0.0		0.04	0.03				
Arsenic	0.00	25.00	-0.01	25.56	102			
Beryllium	0.00		0.011	0.004				
Copper	0.0	50.0	1.09	50.8	102			
Lead	0.0		0.12	0.10				
Nickel	0.0	50.0	1.25	50.9	102			

- 4 -

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICP ID Number: K-ICP-MS-04

ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Zinc	0.0	25.0	0.3	22.5	90			

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1610299
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC1S

Lab Code: K1610116-002S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	53.5		0.429		50.00	106		6020A
Arsenic	84 - 116	54.8		0.7		50.00	108		6020A
Beryllium	83 - 121	5.36		3.03		2.50	93		6020A
Copper	85 - 115	14.9		2.70		12.50	98		6020A
Lead	88 - 115	49.9		0.117		50.00	100		6020A
Nickel	85 - 117	25.1		1.08		25.00	96		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
 - 5A -
 SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. Service Request: K1610299
 Project No.: 06261038.0001.00400 Units: UG/L
 Project Name: Closed Castner Firing Range Basis: NA
 Matrix: WATER % Solids: 0.0

Sample Name: Batch QC1SD Lab Code: K1610116-002SD

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	51.7		0.429		50.00	103		6020A
Arsenic	84 - 116	53.5		0.7		50.00	106		6020A
Beryllium	83 - 121	5.10		3.03		2.50	83		6020A
Copper	85 - 115	14.6		2.70		12.50	95		6020A
Lead	88 - 115	49.0		0.117		50.00	98		6020A
Nickel	85 - 117	24.8		1.08		25.00	95		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1610299
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER **% Solids:** 0.0

Sample Name: Batch QC2S

Lab Code: K1610116-002DISSS

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	53.0		0.460		50.00	105		6020A
Arsenic	84 - 116	55.4		0.6		50.00	110		6020A
Beryllium	83 - 121	5.22		2.85		2.50	95		6020A
Copper	85 - 115	14.8		2.49		12.50	98		6020A
Lead	88 - 115	49.7		0.074		50.00	99		6020A
Nickel	85 - 117	25.2		1.07		25.00	97		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
 - 5A -
 SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. Service Request: K1610299
 Project No.: 06261038.0001.00400 Units: UG/L
 Project Name: Closed Castner Firing Range Basis: NA
 Matrix: WATER % Solids: 0.0

Sample Name: Batch QC2SD Lab Code: K1610116-002DISSSD

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	85 - 117	53.3		0.460		50.00	106		6020A
Arsenic	84 - 116	54.8		0.6		50.00	108		6020A
Beryllium	83 - 121	5.28		2.85		2.50	97		6020A
Copper	85 - 115	14.8		2.49		12.50	98		6020A
Lead	88 - 115	50.0		0.074		50.00	100		6020A
Nickel	85 - 117	25.3		1.07		25.00	97		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
 - 5A -
 SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. Service Request: K1610299
 Project No.: 06261038.0001.00400 Units: UG/L
 Project Name: Closed Castner Firing Range Basis: NA
 Matrix: WATER % Solids: 0.0

Sample Name: FTBL-SP-07-090116S Lab Code: K1610299-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Zinc	83 - 119	30.18		3.62		25.0	106		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
 - 5A -
 SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. Service Request: K1610299
 Project No.: 06261038.0001.00400 Units: UG/L
 Project Name: Closed Castner Firing Range Basis: NA
 Matrix: WATER % Solids: 0.0

Sample Name: FTBL-SP-07-090116SD Lab Code: K1610299-001SD

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Zinc	83 - 119	30.24		3.62		25.0	106		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5B -
POST SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. **Service Request:** K1610299
Project No.: 06261038.0001.00400 **Units:** UG/L
Project Name: Closed Castner Firing Range **Basis:** NA
Matrix: WATER

Sample Name: Batch QC1A

Lab Code: K1610116-002A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Antimony	75 - 125	53.001		0.429		50.0	105		6020A
Arsenic	75 - 125	53.3		0.7		50.0	105		6020A
Beryllium	75 - 125	51.391		3.032		50.0	97		6020A
Copper	75 - 125	51.21		2.70		50.0	97		6020A
Lead	75 - 125	49.364		0.117		50.0	98		6020A
Nickel	75 - 125	49.50		1.08		50.0	97		6020A

Metals
 - 5B -
 POST SPIKE SAMPLE RECOVERY

Client: ARCADIS U.S., Inc. Service Request: K1610299
 Project No.: 06261038.0001.00400 Units: UG/L
 Project Name: Closed Castner Firing Range Basis: NA
 Matrix: WATER

Sample Name: FTBL-SP-07-090116A Lab Code: K1610299-001A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Zinc	75 - 125	24.45		3.62		20.0	104		6020A

ALS Group USA, Corp.

dba ALS Environmental

Metals**- 6 -****DUPLICATES****Client:** ARCADIS U.S., Inc.**Service Request:** K1610299**Project No.:** 06261038.0001.00400**Units:** UG/L**Project Name:** Closed Castner Firing Range**Basis:** NA**Matrix:** WATER**% Solids:** 0.0**Sample Name:** Batch QC1SD**Lab Code:** K1610116-002SD

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony	20	53.5		51.7		3.4		6020A
Arsenic	20	54.8		53.5		2.4		6020A
Beryllium	20	5.36		5.10		5.0		6020A
Copper	20	14.9		14.6		2.0		6020A
Lead	20	49.9		49.0		1.8		6020A
Nickel	20	25.1		24.8		1.2		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

Form VI - IN

ALS Group USA, Corp.

dba ALS Environmental

Metals**- 6 -****DUPLICATES****Client:** ARCADIS U.S., Inc.**Service Request:** K1610299**Project No.:** 06261038.0001.00400**Units:** UG/L**Project Name:** Closed Castner Firing Range**Basis:** NA**Matrix:** WATER**% Solids:** 0.0**Sample Name:** Batch QC2SD**Lab Code:** K1610116-002DISSD

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Antimony	20	53.0		53.3		0.6		6020A
Arsenic	20	55.4		54.8		1.1		6020A
Beryllium	20	5.22		5.28		1.1		6020A
Copper	20	14.8		14.8		0.0		6020A
Lead	20	49.7		50.0		0.6		6020A
Nickel	20	25.2		25.3		0.4		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

Form VI - IN

Metals

- 6 -

DUPLICATES

Client: ARCADIS U.S., Inc. Service Request: K1610299
Project No.: 06261038.0001.00400 Units: UG/L
Project Name: Closed Castner Firing Range Basis: NA
Matrix: WATER % Solids: 0.0

Sample Name: FTBL-SP-07-090116SD Lab Code: K1610299-001SD

Analyte	Control Limit	Sample (S)C	Duplicate (D)C	RPD	Q	Method
Zinc	20	30.18	30.24	0.2		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

- 7 -

LABORATORY CONTROL SAMPLE

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Solid LCS Source:

Analyte	Aqueous (ug/L)			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits	%R	
Antimony	50	51.8	104						
Arsenic	50	53.2	106						
Beryllium	2.5	2.53	101						
Copper	12.5	12.9	103						
Lead	50	49.6	99						
Nickel	25	25.3	101						
Zinc	25.0	26.1	104						

Metals

- 9 -

ICP SERIAL DILUTIONS

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Units: UG/L

Project Name: Closed Castner Firing Range

Sample Name: Batch QC1L

Lab Code: K1610116-002L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	M
Antimony	0.429	0.783	83	J	MS
Arsenic	0.66	1.00	100.0		MS
Beryllium	3.032	3.526	16	J	MS
Copper	2.70	3.20	19	J	MS
Lead	0.117	0.473	304		MS
Nickel	1.08	1.55	44	J	MS

Metals**- 9 -****ICP SERIAL DILUTIONS****Client:** ARCADIS U.S., Inc.**Service Request:** K1610299**Project No.:** 06261038.0001.00400**Units:** UG/L**Project Name:** Closed Castner Firing Range**Sample Name:** FTBL-SP-07-090116L**Lab Code:** K1610299-001L

Analyte	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Differ- ence	Q	M
Zinc	3.62	3.76	4		MS

ALS Group USA, Corp.

dba ALS Environmental

Metals

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DETECTION LIMITS

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICP/ICP-MS ID #: K-ICP-MS-03

GFAA ID #:

AA ID #:

Analyte	Isotope	Back-ground	LOQ ug/L	LOD ug/L	MDL ug/L	M
Antimony	123		0.050	0.013	0.006	MS
Arsenic	75		0.50	0.25	0.20	MS
Beryllium	9		0.020	0.020	0.006	MS
Copper	65		0.10	0.05	0.02	MS
Lead	208		0.020	0.010	0.004	MS
Nickel	60		0.20	0.05	0.02	MS

Comments:

Metals
- 10 -
DETECTION LIMITS

Client: ARCADIS U.S., Inc. Service Request: K1610299
Project No.: 06261038.0001.00400
Project Name: Closed Castner Firing Range

ICP/ICP-MS ID #: K-ICP-MS-04
GFAA ID #: AA ID #:

Analyte	Isotope	Back-ground	LOQ ug/L	LOD ug/L	MDL ug/L	M
Zinc	66		0.50	0.25	0.08	MS

Comments: _____

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICP ID Number: K-ICP-MS-03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Antimony	15.000	2000	6020A
Arsenic	15.000	2000	6020A
Beryllium	15.000	2000	6020A
Copper	15.000	2000	6020A
Lead	15.000	2000	6020A
Nickel	15.000	2000	6020A

Comments:

-12-

ICP LINEAR RANGES (QUARTERLY)

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

ICP ID Number: K-ICP-MS-04

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Zinc	45.000	3000	6020A

Comments:

Metals
-13-
PREPARATION LOG

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1610116-002DISSS	9/13/2016	25.0	25.0
K1610116-002DISSSD	9/13/2016	25.0	25.0
K1610116-002S	9/13/2016	25.0	25.0
K1610116-002SD	9/13/2016	25.0	25.0
K1610299-001	9/13/2016	25.0	25.0
K1610299-001DISS	9/13/2016	25.0	25.0
KQ1611183-01	9/13/2016	25.0	25.0
KQ1611183-02	9/13/2016	25.0	25.0

Metals
-13-
PREPARATION LOG

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Project Name: Closed Castner Firing Range

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1610299-001	10/12/2016	25.0	25.0
K1610299-001DISS	10/12/2016	25.0	25.0
K1610299-001S	10/12/2016	25.0	25.0
K1610299-001SD	10/12/2016	25.0	25.0
KQ1612913-01	10/12/2016	25.0	25.0
KQ1612913-02	10/12/2016	25.0	25.0

Metals
- 14 -
ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Run Number: 101116AMS03

Project Name: Closed Castner Firing Range

Instrument ID Number: K-ICP-MS-03

Method: MS

Start Date: 10/11/2016

End Date: 10/11/2016

Sample No.	D/F	Time	% R	Analytes																					
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K S	S E	A G	N A	T L	V N
Cal. Blk	1.0	06:11			X	X		X					X	X					X						
Cal. Stn	1.0	06:16			X	X		X					X	X					X						
ICV1	1.0	06:21			X	X		X					X	X					X						
CCV1	1.0	06:24			X	X		X					X	X					X						
ICB1	1.0	06:32			X	X		X					X	X					X						
CCB1	1.0	06:36			X	X		X					X	X					X						
LLICVW1	1.0	06:39			X	X		X					X	X					X						
ZZZZZZ	1.0	06:43																							
ICS-A1	1.0	06:47			X	X		X					X	X					X						
ICS-AB1	1.0	06:51			X	X		X					X	X					X						
KQ1611183-01	1.0	07:03			X	X		X					X	X					X						
KQ1611183-02	1.0	07:06			X	X		X					X	X					X						
ZZZZZZ	1.0	07:11																							
ZZZZZZ	1.0	07:15																							
K1610116-002L	5.0	07:19			X	X		X					X	X					X						
K1610116-002A	1.0	07:22			X	X		X					X	X					X						
K1610116-002S	1.0	07:26			X	X		X					X	X					X						
K1610116-002SD	1.0	07:30			X	X		X					X	X					X						
ZZZZZZ	1.0	07:34																							
ZZZZZZ	1.0	07:37																							
CCV2	1.0	07:41			X	X		X					X	X					X						
CCB2	1.0	07:48			X	X		X					X	X					X						
ZZZZZZ	1.0	07:51																							
ZZZZZZ	1.0	07:55																							
K1610116-002DISS	1.0	07:58			X	X		X					X	X					X						
K1610116-002DISSD	1.0	08:02			X	X		X					X	X					X						
ZZZZZZ	1.0	08:06																							
ZZZZZZ	1.0	08:10																							
K1610299-001	1.0	08:14			X	X		X					X	X					X						
K1610299-001DISS	1.0	08:17			X	X		X					X	X					X						
CCV3	1.0	08:21			X	X		X					X	X					X						
CCB3	1.0	08:27			X	X		X					X	X					X						

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

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 ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc.

 Service Request: K1610299

 Project No.: 06261038.0001.00400

 Run Number: 101116AMS03

 Project Name: Closed Castner Firing Range

Instrument ID Number: K-ICP-MS-03

 Method: MS

 Start Date: 10/11/2016

 End Date: 10/11/2016

Sample No.	D/F	Time	% R	Analytes																					
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	V
LLCCVW1	1.0	08:30			X	X		X					X		X				X						

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

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ANALYSIS RUN LOG

Client: ARCADIS U.S., Inc.

Service Request: K1610299

Project No.: 06261038.0001.00400

Run Number: 101616b

Project Name: Closed Castner Firing Range

Instrument ID Number: K-ICP-MS-04

Method: MS

Start Date: 10/16/2016

End Date: 10/16/2016

Sample No.	D/F	Time	% R	Analytes																											
				A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K E	S E	A G	N A	T L	V	Z N	C N				
Blank	1.0	11:11																							X						
Standard 1	1.0	11:13																							X						
ICV1	1.0	11:14																							X						
CCV1	1.0	11:16																							X						
ICB1	1.0	11:17																							X						
CCB1	1.0	11:19																							X						
LLICVW1	1.0	11:20																							X						
ICS-A1	1.0	11:22																							X						
ICS-AB1	1.0	11:23																							X						
ZZZZZZ	1.0	11:25																													
KQ1612913-01	1.0	11:26																							X						
KQ1612913-02	1.0	11:28																							X						
K1610299-001	1.0	11:29																							X						
K1610299-001L	5.0	11:31																							X						
K1610299-001A	1.0	11:32																							X						
K1610299-001S	1.0	11:34																							X						
K1610299-001SD	1.0	11:35																							X						
K1610299-001DISS	1.0	11:37																							X						
CCV2	1.0	11:38																							X						
CCB2	1.0	11:40																							X						
LLCCVW1	1.0	11:41																							X						
ZZZZZZ	1.0	11:44																													

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: 06261038.0001.00400

Lab Code: ALSK Case No.: _____ NRAS No.: _____ SDG NO.: K1610299

ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 10/11/2016 End Date: 10/11/2016

Sample No.	Client ID	Time	Internal Standards %RI For:									
			Element Li_6	Q	Element Ga_71	Q	Element Rh_103	Q	Element In_115	Q	Element Lu_175	Q
Cal. Blk	Cal. Blk	0611	100		100		100		100		100	
Cal. Stn	Cal. Stn	0616	102		101		100		102		101	
ICV1	ICV1	0621	104		101		99		100		100	
CCV1	CCV1	0624	104		100		99		100		100	
ICB1	ICB1	0632	103		99		97		97		97	
CCB1	CCB1	0636	104		99		98		98		97	
LLICVW1	LLICVW1	0639	103		99		98		98		97	
ZZZZZZ	ZZZZZZ	0643										
ICS-A1	ICSA	0647	102		100		94		98		95	
ICS-AB1	ICSAB	0651	108		109		102		105		98	
KQ1611183-01	Method Blank	0703	110		111		105		101		88	
KQ1611183-02	Lab Control	0706	101		103		100		98		90	
ZZZZZZ	ZZZZZZ	0711										
ZZZZZZ	ZZZZZZ	0715										
K1610116-002L	Batch QC1L	0719	107		100		96		94		86	
K1610116-002A	Batch QC1A	0722	98		89		86		88		84	
K1610116-002S	Batch QC1S	0726	96		88		85		86		84	
K1610116-002SD	Batch QC1SD	0730	97		88		85		86		84	
ZZZZZZ	ZZZZZZ	0734										
ZZZZZZ	ZZZZZZ	0737										
CCV2	CCV2	0741	96		89		86		87		83	
CCB2	CCB2	0748	97		86		83		82		79	
ZZZZZZ	ZZZZZZ	0751										
ZZZZZZ	ZZZZZZ	0755										
K1610116-002DISS	Batch QC2S	0758	96		87		84		85		84	
K1610116-002DISS	Batch QC2SD	0802	93		87		83		84		83	
ZZZZZZ	ZZZZZZ	0806										
ZZZZZZ	ZZZZZZ	0810										
K1610299-001	FTBL-SP-07-09011	0814	87		78		77		78		79	
K1610299-001DISS	FTBL-SP-07-09011	0817	85		79		77		79		80	
CCV3	CCV3	0821	93		87		85		85		82	
CCB3	CCB3	0827	94		83		81		80		78	
LLCCVW1	LLCCVW1	0830	95		83		81		80		78	

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: ALS Group USA, Corp. Contract: 06261038.0001.00400
 Lab Code: ALSK Case No.: _____ NRAS No.: _____ SDG NO.: K1610299
 ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 10/16/2016 End Date: 10/16/2016

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Ge KED3	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
Blank	Blank	1111	100											
Standard 1	Standard 1	1113	97											
ICV1	ICV	1114	99											
CCV1	CCV	1116	100											
ICB1	ICB	1117	105											
CCB1	CCB	1119	105											
LLICVW1	LLICVW1	1120	112											
ICS-A1	ICSA	1122	101											
ICS-AB1	ICSAB	1123	104											
ZZZZZZ	ZZZZZZ	1125												
KQ1612913-01	Method Blank	1126	109											
KQ1612913-02	Lab Control	1128	115											
K1610299-001	FTBL-SP-07-09011	1129	101											
K1610299-001L	FTBL-SP-07-09011	1131	104											
K1610299-001A	FTBL-SP-07-09011	1132	117											
K1610299-001S	FTBL-SP-07-09011	1134	119											
K1610299-001SD	FTBL-SP-07-09011	1135	117											
K1610299-001DISS	FTBL-SP-07-09011	1137	119											
CCV2	CCV	1138	112											
CCB2	CCB	1140	116											
LLCCVW1	LLCCVW1	1141	114											
ZZZZZZ	ZZZZZZ	1144												



Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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Metals

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1317 South 13th Avenue, Kelso, WA 98626
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Preparation Information Benchsheet

Prep Run: 270814 **Prep Workflow:** MetDigAqMS **Status:** Prepped **Prep Date:** 09/13/2016
Team: Metals **EPA CLP-:** **Current Step:** Digestion **Due Date:** 09/13/2016
Analyst: Anna **Prep Method:** METALS **Hold Date:** 02/20/2017
 Cheatley **ILM04.0**
Rush/NPDES: N/A

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1611183-01	Method Blank		25 mL	25 mL			Metals D, Metals T	1%HNO3 ULTREX, 0.05mL HCl
KQ1611183-02	Lab Control Sample		25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals D, Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-001	FTBL-SP-01-082416	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-001	FTBL-SP-01-082416	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002	FTBL-SP-03-082916	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002	FTBL-SP-03-082916	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002: KQ1611183-03	Matrix Spike	.01	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002: KQ1611183-04	Duplicate Matrix Spike	.01	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002: KQ1611183-05	Matrix Spike	.02	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-002: KQ1611183-06	Duplicate Matrix Spike	.02	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	172187 172654 174317	Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-003	FD082916	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-003	FD082916	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610116-004	FTBL-SP-05-082916	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610116-004	FTBL-SP-05-082916	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610299-001	FTBL-SP-07-090116	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610299-001	FTBL-SP-07-090116	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl

11 Total Samples consisting of 5 Client Samples, 4 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
k-met 1/100 QCP CICV-1	Spike	172654	10/14/2016	k-met Sb 5ug/mL Sb	Spike	174317	7/12/2017
k-met 1/100 QCP-CICV-3	Spike	172187	10/14/2016				

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET 50ml Centrifuge Tube	173969	Digestion	K-MET HNO3 ULTREX	175090

Preparation Hardware / Equipment

Step	Name	Property	Value		Step	Name	Property	Value	
Digestion	K-BlockDigester-05	Corrected Temperature	97	deg C	Digestion	K-BlockDigester-05	Thermometer ID 6402717		NONE
Digestion	K-BlockDigester-05	Correction Factor	0	deg C	Digestion	K-BlockDigester-05	Thermometer Location	28	NONE
Digestion	K-BlockDigester-05	Observed Temperature	97	deg C					
		211918066							

Preparation Steps

<u>Step</u>	<u>Started</u>	<u>Finished</u>	<u>By</u>	<u>Assisted By</u>	<u>Training?</u>	<u>Comments</u>
Digestion	13-SEP-16 14:23	13-SEP-16 16:23	(b) (6)		N	

Comments

HCl lot #53338

Review

Reviewed by: _____

(b) (6)

Date: _____

9/14/16

ICP-MS LCSW AND SPIKING SOLUTIONS

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-1
k-met 1/100 QCP-CICV-1

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Al	10000	100
Ag	1250	12.5
Ba	10000	100
Be	250	2.5
Ca	25000	250
Co	2500	25
Cu	1250	12.5
Cr	1000	10
Fe	5000	50
K	25000	250
Mg	25000	250
Mn	2500	25
Na	25000	250
Ni	2500	25
V	2500	25
Zn	2500	25

2.50mL to 500mL Dilution of 1000ppm Sb
k-met 5ug/mL Sb

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Sb	5000	50

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-3
k-met 1/100 QCP-CICV-3

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
As	5000	50
Pb	5000	50
Se	5000	50
Tl	5000	50
Cd	2500	25

2.00mL to 200mL Dilution of 1,000 ppm Mo and 1,000 ppm U
k-met Mo/U 10ppm

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Mo	10000	20
U	10000	20

Preparation Information Benchsheet

Prep Run: 273102 **Prep Workflow:** MetDigAqMS **Status:** Prepped **Prep Date:** 10/12/2016
Team: Metals **Prep Method:** EPA CLP- **Current Step:** Digestion **Due Date:** 09/13/2016
Analyst: Anna **ILM04.0** **Hold Date:** 02/28/2017
Cheatley **Rush/NPDES:** N/A

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1612913-01	Method Blank		25 mL	25 mL			Metals D, Metals T	1%HNO3 ULTREX, 0.05mL HCl
KQ1612913-02	Lab Control Sample		25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	174317 175727 175984	Metals D, Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610299-001	FTBL-SP-07-090116	.02	25 mL	25 mL			Metals D	1%HNO3 ULTREX, 0.05mL HCl
K1610299-001	FTBL-SP-07-090116	.01	25 mL	25 mL			Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610299-001: KQ1612913-03	Matrix Spike	.02	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	174317 175727 175984	Metals T	1%HNO3 ULTREX, 0.05mL HCl
K1610299-001: KQ1612913-04	Duplicate Matrix Spike	.02	25 mL	25 mL	0.25 mL 0.25 mL 0.25 mL	174317 175727 175984	Metals T	1%HNO3 ULTREX, 0.05mL HCl

5 Total Samples consisting of 1 Client Sample, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
k-met 1/100 QCP CICV-1	Spike	175984	9/16/2017	k-met Sb 5ug/mL Sb	Spike	174317	7/12/2017
k-met 1/100 QCP-CICV-3	Spike	175727	10/14/2016				

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET 50ml Centrifuge Tube	175689	Digestion	K-MET HNO3 ULTREX	175987

Preparation Hardware / Equipment

Step	Name	Property	Value	Step	Name	Property	Value
Digestion	K-BlockDigester-06	Corrected Temperature	97	Digestion	K-BlockDigester-06	Thermometer ID 3147612	NONE
Digestion	K-BlockDigester-06	Correction Factor	0	Digestion	K-BlockDigester-06	Thermometer Location	51
Digestion	K-BlockDigester-06	Observed Temperature	97				

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	12-OCT-16 12:54	12-OCT-16 14:54	Anna Cheatley		N	

Comments

HCl lot #53338

Review

Reviewed by: _____

ate: 10/12/16

Service Request # K1610299 10/11/12
 Calibration 101116BMS03 A
 QC in calibration 101116BMS03 A
 QC Service Request # K1610116
 STARLIMS run # 517885
 Cal Std: MS20-100H ICSA Std: MS20-98K
 ICV Std: MS20-87J ICSAB Std: MS20-98L
 LLICV Std: MS20-98J I.S. Solution: MS20-46A

6020A DoD 5.0 Data Review Form

	Yes	No	NA
1. Mass calibration <0.1 amu?	<u>X</u>		
2. Resolution <0.9 amu at 10% peak height?	<u>X</u>		
3. Stability RSD ≤5% for five replicates?	<u>X</u>		
4. Appropriate standardization completed?	<u>X</u>		
5. ICV within 10% of true value?	<u>X</u>		
6. CCV's within 10% of true?	<u>X</u>		
7. ICB/CCB's <LOD?	<u>X</u>		
8. Initial Low-level cal. check ± 20%	<u>X</u>		
9. ICSA/ICSAB within ± 20%	<u>X</u>		
10. Method blank <½ the LOQ?	<u>X</u>		
11. LCS within DoD 5.0 limit?	<u>X</u>		
12. Spikes within DoD 5.0 limit?	<u>X</u>		
13. Duplicate Spike RPD <20% DoD limit?	<u>X</u>		
14. Serial dilution within 10%?	<u>X</u>		
15. Post spike within 80-120% DoD limit?	<u>X</u>		
16. Internal standards within 70-120%?	<u>X</u>		
17. Linear range established with LRS?	<u>X</u>		
18. Adequate rinse out time allowed?	<u>X</u>		
20. Interferences checked?	<u>X</u>		
21. Se over MRL?		<u>X</u>	
22. Cd Correction Applied?			<u>X</u>
23. Was run prematurely stopped, If so why?		<u>X</u>	

Comments:

Primary Review by _____
 Secondary Review by _____

(b) (6)

Date 10/11/12
 Date 10/12/12

Data Review Form

Service Request #: K1610299
Instrument ID#: K-ICP-MS-03
DataFile Name: R:\ICP\WIP\DATA\K-ICP-MS-03 (X-Series)
\101116AMS03.csv
RUNNO: 517885

There are no issues to report.

Primary Approver: _____
Secondary Approver: 3C 10/12/16 J 10/11/16

Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	Cal. Blk	Blank	1.000	0	1	1	145
2	Cal. Std	Fully Quant Standard	1.000	0	1	2	145
3	ICV1	Unknown	1.000	0	1	3	145
4	CCV1	Unknown	1.000	0	1	2	145
5	ICB1	Unknown	1.000	0	1	1	145
6	CCB1	Unknown	1.000	0	1	1	145
7	LLCWW	Unknown	1.000	0	1	4	145
8	LRSTD	Unknown	1.000	1	2	7	145
9	ICSA	Unknown	1.000	0	1	5	145
10	ICSAB	Unknown	1.000	0	1	6	145
11	KQ1611183-01	Unknown	1.000	1	1	1	145
12	KQ1611183-02	Unknown	1.000	1	1	2	145
13	K1610116-001	Unknown	1.000	1	1	3	145
14	K1610116-002	Unknown	1.000	1	1	4	145
15	K1610116-002L	Unknown	1.000	1	1	5	145
16	K1610116-002A	Unknown	1.000	1	1	6	145
17	K1610116-002S	Unknown	1.000	1	1	7	145
18	K1610116-002SD	Unknown	1.000	1	1	8	145
19	K1610116-003	Unknown	1.000	1	1	9	145
20	K1610116-004	Unknown	1.000	1	1	10	145
21	CCV2	Unknown	1.000	0	1	2	145
22	CCB2	Unknown	1.000	0	1	1	145
23	K1610116-001 DISS	Unknown	1.000	1	1	11	145
24	K1610116-002 DISS	Unknown	1.000	1	1	12	145
25	K1610116-002S DISS	Unknown	1.000	1	2	1	145
26	K1610116-002SD DISS	Unknown	1.000	1	2	2	145
27	K1610116-003 DISS	Unknown	1.000	1	2	3	145
28	K1610116-004 DISS	Unknown	1.000	1	2	4	145
29	K1610299-001	Unknown	1.000	1	2	5	145
30	K1610299-001 DISS	Unknown	1.000	1	2	6	145
31	CCV3	Unknown	1.000	0	1	2	145
32	CCB3	Unknown	1.000	0	1	1	145
33	LLCCWW	Unknown	1.000	0	1	4	145

Performance Report

Sample details

Acquired at : 10/11/2016 5:55:44 AM

Report name : Kelso Performance Report 3 [8/24/2011 10:10:34 AM]

Mass Calibration verification

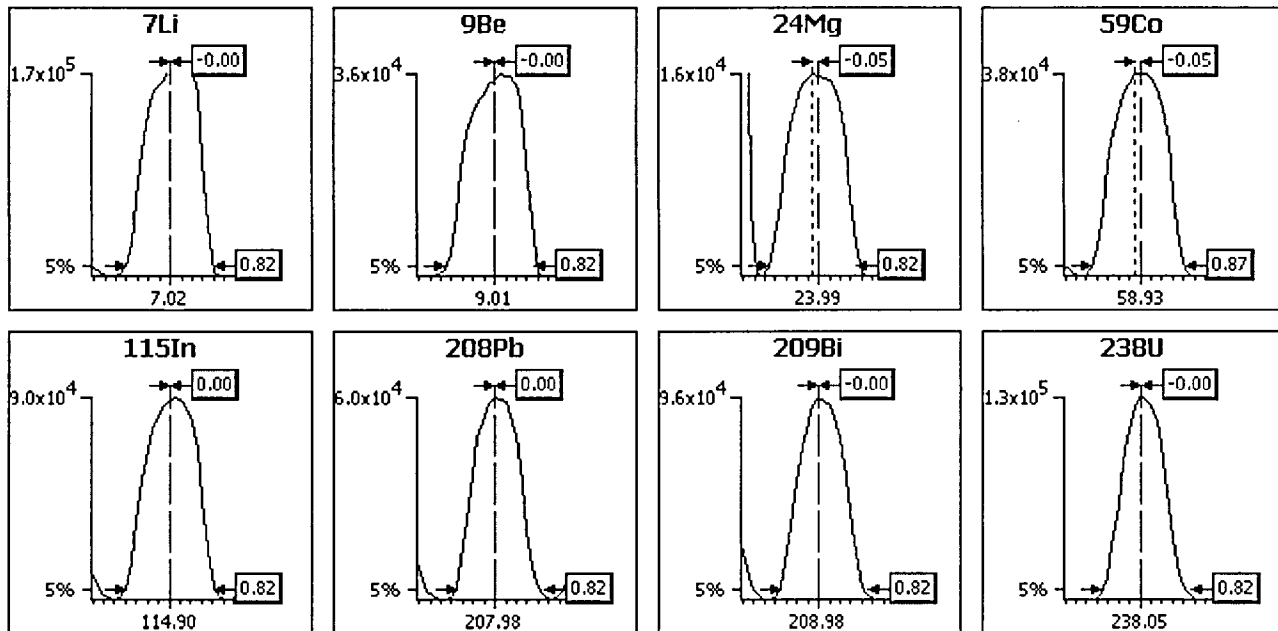
Acquisition parameters

Sweeps : 100

Dwell : 1.0 mSecs

Point spacing : 0.05 amu

Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.90	0.60	0.10	0.82	-0.00
9Be	0.90	0.60	0.10	0.82	-0.00
24Mg	0.90	0.60	0.10	0.82	-0.05
59Co	0.90	0.60	0.10	0.87	-0.05
115In	0.90	0.60	0.10	0.82	0.00
208Pb	0.90	0.60	0.10	0.82	0.00
209Bi	0.90	0.60	0.10	0.82	-0.00
238U	0.90	0.60	0.10	0.82	-0.00

Dilution Corrected Concentrations

Cal. Blk 10/11/2016 6:11:12 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:11:12	99.3%	0.0014	0.0052	-0.0041	-0.0024	0.0014	98.7%	0.0376	-0.0107	-0.0019
2	06:11:44	100.0%	-0.0022	-0.0048	0.0146	0.0051	-0.0018	100.5%	-0.0132	-0.0222	0.1299
3	06:12:16	100.7%	0.0007	-0.0004	-0.0105	-0.0027	0.0005	100.8%	-0.0244	0.0329	-0.1280
x		100.0%	-0.0000	-0.0000	-0.0000	-0.0000	0.0000	100.0%	0.0000	-0.0000	-0.0000
σ		0.7%	0.0019	0.0050	0.0130	0.0044	0.0017	1.1%	0.0330	0.0291	0.1290
%RSD		0.7	0.0000	0.0000	0.0000	0.0000	0.0000	1.1	0.0000	0.0000	0.0000
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:11:12	0.1229	99.5%	98.8%	0.0002	0.0005	98.1%	0.0001	-0.0005	0.0001	
2	06:11:44	-0.0650	99.8%	100.4%	0.0007	0.0010	99.9%	0.0004	0.0008	0.0003	
3	06:12:16	-0.0580	100.7%	100.8%	-0.0009	-0.0015	101.9%	-0.0005	-0.0003	-0.0004	
x		0.0000	100.0%	100.0%	-0.0000	-0.0000	100.0%	-0.0000	0.0000	-0.0000	
σ		0.1065	0.6%	1.1%	0.0008	0.0014	1.9%	0.0004	0.0007	0.0004	
%RSD		0.0000	0.6	1.1	0.0000	0.0000	1.9	0.0000	0.0000	0.0000	

Cal. Stn 10/11/2016 6:16:11 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:16:11	102.8%	25.2209	25.3246	25.3507	25.0026	25.0578	99.9%	25.1374	24.5970	24.7504
2	06:16:43	100.3%	25.0356	25.0240	24.9063	24.9829	25.1110	100.9%	24.6576	25.8191	25.0414
3	06:17:16	103.6%	24.7435	24.6513	24.7431	25.0145	24.8312	100.8%	25.2050	24.5840	25.2082
x		102.2%	25.0000	25.0000	25.0000	25.0000	25.0000	100.5%	25.0000	25.0000	25.0000
σ		1.7%	0.2407	0.3373	0.3145	0.0160	0.1486	0.5%	0.2984	0.7093	0.2317
%RSD		1.7	0.9627	1.3492	1.2579	0.0639	0.5943	0.5	1.1937	2.8374	0.9267
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:16:11	24.7084	99.5%	101.4%	24.8064	24.9996	100.7%	24.9904	24.8810	24.9714	
2	06:16:43	24.6662	100.1%	101.7%	25.0920	25.1062	100.8%	24.9343	25.1028	24.9622	
3	06:17:16	25.6254	100.9%	102.1%	25.1016	24.8942	101.1%	25.0753	25.0162	25.0664	
x		25.0000	100.2%	101.7%	25.0000	25.0000	100.8%	25.0000	25.0000	25.0000	
σ		0.5420	0.7%	0.4%	0.1677	0.1060	0.3%	0.0710	0.1118	0.0577	
%RSD		2.1680	0.7	0.4	0.6709	0.4241	0.3	0.2840	0.4472	0.2309	

ICV1 10/11/2016 6:21:03 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:21:03	105.2%	2.3621	24.0410	24.6870	12.2011	12.0689	100.1%	23.2248	22.4165	22.8323
2	06:21:35	103.0%	2.3368	24.4427	24.6248	12.1290	12.0657	100.8%	23.1423	23.1060	22.6367
3	06:22:08	103.7%	2.3917	24.2036	24.6866	12.0911	12.1909	100.9%	23.2611	21.7327	22.7379
x		104.0%	2.3635	24.2291	24.6662	12.1404	12.1085	100.6%	23.2094	22.4184	22.7356
σ		1.1%	0.0275	0.2021	0.0358	0.0559	0.0714	0.4%	0.0609	0.6866	0.0978
%RSD		1.1	1.1617	0.8340	0.1451	0.4603	0.5893	0.4	0.2622	3.0627	0.4303
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:21:03	23.0899	97.5%	98.5%	23.9514	23.9280	98.2%	24.0020	24.9031	24.0489	
2	06:21:35	23.4715	100.0%	100.4%	23.9721	23.7713	101.0%	23.6219	24.6051	23.6630	
3	06:22:08	22.7304	99.7%	100.5%	23.9855	23.9029	100.4%	23.9685	24.8714	24.0063	
x		23.0973	99.0%	99.8%	23.9697	23.8674	99.9%	23.8641	24.7932	23.9061	
σ		0.3706	1.4%	1.2%	0.0172	0.0841	1.4%	0.2105	0.1636	0.2116	
%RSD		1.6046	1.4	1.2	0.0717	0.3525	1.4	0.8819	0.6601	0.8852	

CCV1 10/11/2016 6:24:43 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:24:43	104.4%	25.1923	25.1351	25.4513	25.4409	25.7179	99.1%	24.8828	25.2150	24.9903
2	06:25:15	104.4%	24.9467	25.2545	25.1022	25.2898	25.4095	100.4%	25.0213	25.0516	25.4067
3	06:25:48	102.1%	25.2526	25.3393	25.1145	25.6801	25.7867	99.3%	25.2079	24.4961	24.9090
x		103.6%	25.1305	25.2430	25.2227	25.4702	25.6380	99.6%	25.0373	24.9209	25.1020
σ		1.3%	0.1621	0.1026	0.1981	0.1968	0.2009	0.7%	0.1631	0.3768	0.2670
%RSD		1.3	0.6449	0.4063	0.7853	0.7727	0.7835	0.7	0.6514	1.5120	1.0636
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:24:43	24.3587	99.1%	99.4%	24.9462	25.0650	99.0%	25.2747	24.9341	25.2622	
2	06:25:15	25.3523	98.7%	100.3%	25.2389	25.2293	99.9%	25.4051	25.3536	25.3879	
3	06:25:48	24.3607	99.6%	100.3%	25.4175	25.4288	100.4%	24.9438	25.1595	24.9762	
x		24.6906	99.1%	100.0%	25.2009	25.2410	99.7%	25.2078	25.1490	25.2087	
σ		0.5730	0.5%	0.5%	0.2379	0.1822	0.7%	0.2378	0.2099	0.2110	
%RSD		2.3209	0.5	0.5	0.9442	0.7218	0.7	0.9434	0.8348	0.8370	

ICB1 10/11/2016 6:32:44 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:32:44	102.0%	0.0015	0.0167	0.0447	0.0052	0.0073	98.1%	-0.0011	0.0677	0.0337
2	06:33:17	103.7%	-0.0064	0.0141	-0.0038	-0.0021	0.0070	98.9%	0.0463	-0.0769	-0.2048
3	06:33:49	103.8%	-0.0021	0.0177	0.0194	-0.0012	-0.0023	100.1%	-0.0073	0.0163	-0.1426
x		103.2%	-0.0023	0.0162	0.0201	0.0006	0.0040	99.0%	0.0127	0.0024	-0.1046
σ		1.0%	0.0040	0.0019	0.0243	0.0040	0.0055	1.0%	0.0293	0.0733	0.1237
%RSD		1.0	170.7735	11.6176	120.5150	638.0723	136.6843	1.0	231.9549	3087.4762	118.3124
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:32:44	0.0473	96.5%	96.1%	0.0092	0.0063	95.0%	-0.0012	0.0001	-0.0012	
2	06:33:17	0.0956	97.4%	97.9%	0.0076	0.0077	97.5%	0.0000	0.0006	-0.0000	
3	06:33:49	-0.0097	98.1%	98.3%	0.0061	0.0073	98.2%	-0.0006	0.0002	-0.0006	
x		0.0444	97.4%	97.4%	0.0076	0.0071	96.9%	-0.0006	0.0003	-0.0006	
σ		0.0527	0.8%	1.1%	0.0016	0.0007	1.7%	0.0006	0.0002	0.0006	
%RSD		118.7580	0.8	1.2	20.7470	10.0128	1.7	97.2519	82.1453	99.0176	

CCB1 10/11/2016 6:36:11 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:36:11	104.6%	-0.0027	0.0223	0.0527	0.0001	-0.0005	98.1%	0.0462	0.0383	-0.2010
2	06:36:43	103.4%	-0.0016	0.0174	0.0320	-0.0024	-0.0012	99.3%	0.0510	0.0364	0.0865
3	06:37:15	102.9%	-0.0010	0.0054	0.0131	0.0001	-0.0013	99.7%	-0.0036	-0.0397	-0.0587
x		103.6%	-0.0018	0.0150	0.0326	-0.0007	-0.0010	99.0%	0.0312	0.0117	-0.0577
σ		0.9%	0.0008	0.0087	0.0198	0.0015	0.0004	0.8%	0.0302	0.0445	0.1438
%RSD		0.9	47.6683	57.7370	60.7801	198.8411	39.8995	0.8	96.8590	381.8844	249.0486
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:36:11	0.1948	97.9%	97.1%	-0.0008	0.0014	96.4%	0.0005	0.0004	0.0004	
2	06:36:43	0.1998	98.2%	98.2%	0.0017	0.0043	97.3%	-0.0011	0.0008	-0.0010	
3	06:37:15	-0.0654	97.9%	98.0%	0.0026	0.0020	97.5%	-0.0012	0.0018	-0.0011	
x		0.1098	98.0%	97.8%	0.0012	0.0026	97.1%	-0.0006	0.0010	-0.0006	
σ		0.1517	0.2%	0.6%	0.0018	0.0016	0.6%	0.0010	0.0007	0.0008	
%RSD		138.2134	0.2	0.6	146.8581	60.4621	0.6	163.3078	72.3105	144.9753	

LLICVW 10/11/2016 6:39:27 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:39:27	100.6%	0.0156	0.2522	0.2175	0.1041	0.1035	98.0%	0.5385	1.0453	1.0677
2	06:39:59	103.9%	0.0185	0.2257	0.2550	0.0966	0.1167	98.8%	0.5041	1.1694	0.9771
3	06:40:32	104.3%	0.0184	0.2338	0.2316	0.0978	0.1054	101.0%	0.5058	1.0196	1.0203
x		102.9%	0.0175	0.2372	0.2347	0.0995	0.1085	99.3%	0.5161	1.0781	1.0217
σ		2.0%	0.0016	0.0136	0.0189	0.0040	0.0071	1.6%	0.0194	0.0801	0.0453
%RSD		2.0	9.4156	5.7313	8.0720	4.0237	6.5871	1.6	3.7503	7.4329	4.4337
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:39:27	1.1076	97.0%	97.1%	0.0486	0.0594	95.9%	0.0234	0.0202	0.0233	
2	06:39:59	0.9658	97.6%	97.3%	0.0546	0.0550	97.3%	0.0223	0.0247	0.0222	
3	06:40:32	0.9861	99.5%	99.8%	0.0541	0.0489	98.9%	0.0214	0.0218	0.0213	
x		1.0198	98.0%	98.1%	0.0524	0.0544	97.4%	0.0223	0.0222	0.0223	
σ		0.0767	1.3%	1.5%	0.0034	0.0053	1.5%	0.0010	0.0023	0.0010	
%RSD		7.5223	1.3	1.5	6.3956	9.6524	1.5	4.6421	10.2495	4.4334	

LRSTD 10/11/2016 6:43:14 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:43:14	102.4%	197.4266	194.6290	195.0468	200.0445	199.0780	97.9%	202.2703	197.9178	201.3942
2	06:43:46	102.1%	194.9237	195.0359	193.5551	199.9473	197.8671	99.5%	200.0108	202.5154	199.2036
3	06:44:19	101.6%	195.2352	196.3611	194.4918	200.2077	198.0731	98.0%	199.8683	197.0776	200.3537
x		102.0%	195.8618	195.3420	194.3646	200.0665	198.3394	98.5%	200.7165	199.1703	200.3172
σ		0.4%	1.3641	0.9057	0.7539	0.1316	0.6479	0.9%	1.3476	2.9273	1.0957
%RSD		0.4	0.6964	0.4637	0.3879	0.0658	0.3267	0.9	0.6714	1.4697	0.5470
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:43:14	199.8284	96.8%	103.6%	198.6772	196.3424	97.9%	206.4004	205.1492	210.9696	
2	06:43:46	199.1363	96.8%	103.9%	199.8103	198.2098	98.5%	207.7011	206.6595	212.1659	
3	06:44:19	199.7599	96.7%	104.9%	197.1488	195.9021	99.1%	206.8548	206.0935	211.2994	
x		199.5749	96.8%	104.1%	198.5454	196.8181	98.5%	206.9854	205.9674	211.4783	
σ		0.3813	0.1%	0.7%	1.3356	1.2252	0.6%	0.6601	0.7630	0.6179	
%RSD		0.1911	0.1	0.6	0.6727	0.6225	0.6	0.3189	0.3704	0.2922	

ICSA 10/11/2016 6:47:57 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:47:57	99.7%	0.0123	1.3298	2.1090	1.1352	1.0864	96.7%	-0.0743	1.5369	0.1129
2	06:48:30	103.0%	0.0125	1.1668	2.0041	1.1526	1.0980	99.8%	0.0546	1.3662	0.3446
3	06:49:02	103.9%	0.0079	1.2409	1.9858	1.1507	1.0800	102.6%	-0.0238	1.4106	0.1281
x		102.2%	0.0109	1.2459	2.0329	1.1462	1.0881	99.7%	-0.0145	1.4379	0.1952
σ		2.2%	0.0026	0.0816	0.0665	0.0096	0.0091	3.0%	0.0649	0.0886	0.1296
%RSD		2.2	23.6028	6.5505	3.2703	0.8358	0.8365	3.0	447.5621	6.1598	66.4068
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:47:57	-0.4841	90.6%	94.6%	0.0374	0.0346	92.9%	0.1165	0.1064	0.1165	
2	06:48:30	-0.1789	94.6%	97.9%	0.0445	0.0412	95.5%	0.1236	0.1213	0.1226	
3	06:49:02	-0.4096	96.3%	100.3%	0.0426	0.0366	96.7%	0.1102	0.1097	0.1101	
x		-0.3575	93.9%	97.6%	0.0415	0.0375	95.0%	0.1168	0.1125	0.1164	
σ		0.1591	2.9%	2.9%	0.0036	0.0034	1.9%	0.0067	0.0078	0.0062	
%RSD		44.5053	3.1	2.9	8.7734	8.9740	2.0	5.7240	6.9642	5.3424	

ICSAB 10/11/2016 6:51:32 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	06:51:32	108.6%	0.0011	50.4071	52.5254	51.2802	51.0601	108.0%	25.3597	27.3846	26.3885
2	06:52:04	107.7%	0.0049	51.0503	52.7340	51.2141	50.7765	109.8%	25.6923	25.3501	26.3199
3	06:52:37	107.3%	0.0049	51.1821	53.2544	50.5418	50.4968	110.0%	25.6199	26.0284	25.8909
x		107.9%	0.0036	50.8798	52.8379	51.0120	50.7778	109.3%	25.5573	26.2544	26.1998
σ		0.7%	0.0022	0.4147	0.3755	0.4085	0.2817	1.1%	0.1749	1.0359	0.2697
%RSD		0.6	61.4303	0.8150	0.7106	0.8009	0.5547	1.0	0.6844	3.9456	1.0294
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	06:51:32	24.8160	101.0%	103.8%	0.0277	0.0323	97.1%	0.0993	0.0976	0.0988	
2	06:52:04	24.6169	102.9%	106.0%	0.0279	0.0254	98.3%	0.1025	0.0990	0.1025	
3	06:52:37	24.5833	102.8%	106.0%	0.0280	0.0291	99.0%	0.1068	0.1044	0.1061	
x		24.6721	102.2%	105.3%	0.0279	0.0289	98.1%	0.1028	0.1003	0.1025	
σ		0.1258	1.1%	1.3%	0.0001	0.0035	1.0%	0.0037	0.0036	0.0036	
%RSD		0.5100	1.1	1.2	0.4480	12.0053	1.0	3.6453	3.5889	3.5289	

KQ1611183-01 10/11/2016 7:03:50 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:03:50	108.8%	-0.0031	0.0133	0.3964	0.0260	0.0068	109.1%	-0.0139	0.0635	0.7842
2	07:04:22	112.1%	-0.0029	0.0180	0.4197	0.0289	0.0044	111.9%	-0.0357	0.0497	0.7124
3	07:04:55	108.0%	-0.0039	0.0137	0.3567	0.0313	0.0058	111.7%	-0.0484	0.0580	0.8227
x		109.6%	-0.0033	0.0150	0.3909	0.0287	0.0056	110.9%	-0.0327	0.0571	0.7731
σ		2.1%	0.0005	0.0026	0.0318	0.0026	0.0012	1.6%	0.0175	0.0069	0.0560
%RSD		2.0	15.9760	17.4749	8.1439	9.1208	21.3890	1.4	53.3939	12.1564	7.2375
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:03:50	-0.0176	102.9%	99.2%	-0.0039	-0.0010	85.6%	0.0020	0.0026	0.0020	
2	07:04:22	-0.1127	104.7%	101.5%	-0.0005	-0.0021	88.5%	0.0025	0.0016	0.0025	
3	07:04:55	-0.1628	106.0%	102.2%	-0.0023	0.0001	88.5%	0.0027	0.0020	0.0026	
x		-0.0977	104.6%	101.0%	-0.0022	-0.0010	87.5%	0.0024	0.0020	0.0023	
σ		0.0737	1.5%	1.6%	0.0017	0.0011	1.7%	0.0003	0.0005	0.0003	
%RSD		75.4586	1.5	1.5	76.8276	113.6903	1.9	13.9773	24.3532	14.0471	

KQ1611183-02 10/11/2016 7:06:54 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:06:54	102.5%	2.4800	25.1559	25.6450	12.9205	12.9134	103.3%	53.2339	54.5948	53.5977
2	07:07:27	101.5%	2.5047	25.5335	25.8398	12.7836	12.9898	103.7%	53.0403	52.5792	54.0415
3	07:07:59	99.2%	2.6072	25.2827	25.5595	12.9591	12.6983	103.2%	53.3505	53.2711	53.2097
x		101.1%	2.5306	25.3241	25.6814	12.8877	12.8671	103.4%	53.2082	53.4817	53.6163
σ		1.7%	0.0675	0.1922	0.1436	0.0922	0.1512	0.3%	0.1566	1.0242	0.4162
%RSD		1.7	2.6654	0.7588	0.5593	0.7156	1.1749	0.3	0.2944	1.9150	0.7762
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:06:54	53.8886	99.8%	97.2%	52.4704	52.0347	88.4%	49.5835	50.9335	49.6438	
2	07:07:27	51.8056	100.7%	99.4%	51.5576	51.3591	90.4%	49.4085	51.0621	49.4742	
3	07:07:59	52.1478	99.6%	97.6%	52.3222	52.0035	89.8%	49.6912	51.4843	49.7540	
x		52.6140	100.0%	98.1%	52.1168	51.7991	89.5%	49.5611	51.1600	49.6240	
σ		1.1170	0.6%	1.1%	0.4898	0.3814	1.0%	0.1427	0.2881	0.1409	
%RSD		2.1230	0.6	1.2	0.9399	0.7363	1.1	0.2879	0.5632	0.2840	

K1610116-001 10/11/2016 7:11:37 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:11:37	106.0%	0.0272	1.1438	0.8223	4.7370	4.9040	97.8%	1.9389	3.5060	0.9837
2	07:12:10	104.9%	0.0220	1.0996	0.8024	4.8219	4.8108	96.2%	2.0029	3.3508	0.7746
3	07:12:43	102.1%	0.0161	1.0992	0.7741	4.7515	4.7402	94.9%	1.9478	3.4744	0.6924
x		104.3%	0.0218	1.1142	0.7996	4.7701	4.8183	96.3%	1.9632	3.4437	0.8169
σ		2.0%	0.0056	0.0257	0.0242	0.0454	0.0822	1.5%	0.0347	0.0820	0.1502
%RSD		1.9	25.5138	2.3023	3.0293	0.9525	1.7057	1.5	1.7667	2.3825	18.3849
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:11:37	0.4076	93.0%	91.0%	1.0386	1.0386	85.3%	0.8111	0.8097	0.8100	
2	07:12:10	0.4198	92.9%	91.9%	1.0766	1.0496	87.1%	0.8392	0.8338	0.8354	
3	07:12:43	0.5826	90.7%	91.7%	1.0502	1.0584	86.2%	0.8536	0.8060	0.8490	
x		0.4700	92.2%	91.6%	1.0551	1.0488	86.2%	0.8346	0.8165	0.8315	
σ		0.0977	1.3%	0.5%	0.0195	0.0099	0.9%	0.0216	0.0151	0.0198	
%RSD		20.7947	1.4	0.5	1.8491	0.9466	1.0	2.5917	1.8480	2.3817	

K1610116-002 10/11/2016 7:15:30 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:15:30	100.5%	3.0126	1.0635	0.6956	2.7037	2.6791	93.2%	0.6873	3.8839	1.0031
2	07:16:03	100.1%	3.0714	1.0924	0.7184	2.7514	2.6914	93.7%	0.6525	4.3127	0.7178
3	07:16:35	99.6%	3.0127	1.0817	0.7472	2.7003	2.7362	93.6%	0.6510	4.1208	0.7863
x		100.1%	3.0322	1.0792	0.7204	2.7185	2.7022	93.5%	0.6636	4.1058	0.8357
σ		0.4%	0.0339	0.0146	0.0258	0.0285	0.0301	0.3%	0.0206	0.2148	0.1490
%RSD		0.4	1.1193	1.3514	3.5877	1.0498	1.1131	0.3	3.0975	5.2318	17.8237
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:15:30	0.4052	89.4%	88.3%	0.4309	0.4393	84.5%	0.1235	0.1104	0.1228	
2	07:16:03	0.3817	89.1%	89.9%	0.4259	0.4317	86.1%	0.1127	0.1094	0.1129	
3	07:16:35	0.3740	89.4%	90.2%	0.4175	0.4162	86.8%	0.1157	0.1126	0.1150	
x		0.3870	89.3%	89.5%	0.4248	0.4291	85.8%	0.1173	0.1108	0.1169	
σ		0.0162	0.2%	1.1%	0.0067	0.0118	1.2%	0.0056	0.0016	0.0052	
%RSD		4.1987	0.2	1.2	1.5889	2.7455	1.4	4.7889	1.4756	4.4524	

K1610116-002L 10/11/2016 7:19:05 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:19:05	107.3%	0.6899	0.3073	0.2460	0.6330	0.6442	99.2%	0.2052	0.9903	0.8618
2	07:19:38	106.6%	0.7104	0.2986	0.2331	0.6491	0.6463	101.0%	0.1576	1.1930	0.8216
3	07:20:10	106.2%	0.7151	0.3244	0.2513	0.6112	0.6317	100.9%	0.1026	1.2344	0.7682
x		106.7%	0.7051	0.3101	0.2435	0.6311	0.6407	100.4%	0.1551	1.1392	0.8172
σ		0.6%	0.0134	0.0131	0.0094	0.0190	0.0079	1.0%	0.0514	0.1307	0.0470
%RSD		0.5	1.8987	4.2394	3.8406	3.0185	1.2321	1.0	33.1079	11.4686	5.7457
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:19:05	0.2235	95.4%	93.0%	0.1438	0.1513	84.4%	0.0999	0.0915	0.0995	
2	07:19:38	0.2049	97.2%	94.0%	0.1429	0.1668	87.0%	0.0916	0.0917	0.0915	
3	07:20:10	-0.0237	96.6%	94.7%	0.1593	0.1516	87.8%	0.0921	0.0845	0.0927	
x		0.1349	96.4%	93.9%	0.1487	0.1566	86.4%	0.0946	0.0892	0.0946	
σ		0.1377	0.9%	0.8%	0.0092	0.0089	1.8%	0.0047	0.0041	0.0043	
%RSD		102.0668	1.0	0.9	6.1824	5.6548	2.0	4.9341	4.5981	4.5818	

K1610116-002A 10/11/2016 7:22:41 AM

User Pre-dilution: 1.000

X 50 ppb

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:22:41	99.4%	51.5415	49.0650	49.8176	51.6411	51.5232	89.6%	53.3625	56.7407	53.0294
2	07:23:13	97.5%	51.6687	49.9459	49.4906	51.4543	50.6983	89.6%	53.1980	55.4357	52.6031
3	07:23:46	96.4%	50.9629	49.4860	49.2977	51.7878	51.4225	88.3%	53.3669	56.5779	52.3727
x		97.8%	51.3910	49.4989	49.5353	51.6277	51.2147	89.2%	53.3092	56.2514	52.6684
σ		1.5%	0.3762	0.4406	0.2628	0.1671	0.4500	0.8%	0.0963	0.7111	0.3332
%RSD		1.5	0.7320	0.8901	0.5305	0.3238	0.8786	0.9	0.1806	1.2642	0.6326
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:22:41	52.7422	85.7%	87.2%	53.2425	53.3601	83.1%	49.4044	49.7064	49.4481	
2	07:23:13	51.8049	86.3%	88.8%	52.5118	52.8086	84.9%	49.5461	49.7015	49.5797	
3	07:23:46	53.6159	85.6%	88.1%	52.8737	52.8329	85.3%	49.0520	49.2828	49.0651	
x		52.7210	85.9%	88.0%	52.8760	53.0005	84.4%	49.3342	49.5636	49.3643	
σ		0.9057	0.4%	0.8%	0.3653	0.3117	1.2%	0.2544	0.2432	0.2673	
%RSD		1.7179	0.4	0.9	0.6909	0.5880	1.4	0.5156	0.4907	0.5415	

K1610116-002S 10/11/2016 7:26:26 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:26:26	98.4%	5.2620	24.7921	24.8161	14.9458	14.8729	87.5%	55.1285	57.6970	54.7960
2	07:26:59	94.1%	5.5057	25.2481	25.3530	14.7317	15.1053	88.5%	54.7215	58.1589	55.0405
3	07:27:31	95.9%	5.3212	25.2127	24.5801	14.7815	14.8466	88.2%	54.4271	58.8518	54.1473
x		96.1%	5.3630	25.0843	24.9164	14.8197	14.9416	88.1%	54.7590	58.2359	54.6613
σ		2.1%	0.1271	0.2536	0.3961	0.1121	0.1424	0.5%	0.3522	0.5812	0.4616
%RSD		2.2	2.3694	1.0111	1.5896	0.7561	0.9530	0.6	0.6432	0.9981	0.8444
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:26:26	55.4985	84.3%	84.0%	53.8621	54.0037	82.2%	50.3454	52.2022	50.4555	
2	07:26:59	54.2131	85.2%	86.0%	53.3919	53.1398	84.9%	49.5761	51.5541	49.6675	
3	07:27:31	53.4520	85.1%	86.6%	53.3148	53.2364	85.1%	49.5566	51.7245	49.6792	
x		54.3879	84.9%	85.5%	53.5229	53.4600	84.1%	49.8260	51.8269	49.9341	
σ		1.0344	0.5%	1.3%	0.2963	0.4733	1.7%	0.4499	0.3360	0.4516	
%RSD		1.9019	0.6	1.6	0.5535	0.8854	2.0	0.9029	0.6482	0.9044	

K1610116-002SD 10/11/2016 7:30:20 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:30:20	97.4%	5.1399	24.8852	24.2051	14.4681	14.4700	88.0%	52.8066	56.8325	52.4070
2	07:30:52	97.6%	5.0059	24.8673	24.7936	14.6952	14.7339	87.8%	54.0457	57.2001	53.1693
3	07:31:25	96.6%	5.1595	24.5582	24.1613	14.5254	14.5218	88.5%	53.6864	55.4852	53.1211
x		97.2%	5.1018	24.7703	24.3867	14.5629	14.5752	88.1%	53.5129	56.5059	52.8991
σ		0.5%	0.0836	0.1838	0.3531	0.1181	0.1398	0.4%	0.6375	0.9029	0.4269
%RSD		0.5	1.6387	0.7421	1.4480	0.8111	0.9591	0.4	1.1913	1.5978	0.8070
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:30:20	52.7386	83.7%	85.0%	51.8046	51.8295	82.4%	48.7096	50.6572	48.7840	
2	07:30:52	55.1887	85.2%	85.9%	52.4177	51.8728	84.1%	48.7942	50.8915	48.9157	
3	07:31:25	53.0693	85.3%	86.6%	51.9687	51.4686	84.6%	49.2444	50.6148	49.3028	
x		53.6655	84.7%	85.8%	52.0636	51.7236	83.7%	48.9161	50.7211	49.0008	
σ		1.3294	0.9%	0.8%	0.3174	0.2219	1.1%	0.2875	0.1491	0.2697	
%RSD		2.4772	1.1	0.9	0.6096	0.4291	1.3	0.5876	0.2939	0.5504	

K1610116-003 10/11/2016 7:34:13 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:34:13	94.6%	2.9963	1.1343	0.8006	2.7979	2.8262	85.4%	0.6201	4.5664	0.5639
2	07:34:46	93.3%	2.9567	1.1366	0.7612	2.8306	2.8482	84.9%	0.6347	4.5807	0.5844
3	07:35:18	95.3%	2.8949	1.1254	0.7578	2.7972	2.7433	85.8%	0.6772	4.5222	0.6940
X		94.4%	2.9493	1.1321	0.7732	2.8086	2.8059	85.4%	0.6440	4.5564	0.6141
σ		1.0%	0.0511	0.0059	0.0238	0.0191	0.0553	0.5%	0.0297	0.0305	0.0699
%RSD		1.1	1.7329	0.5224	3.0744	0.6799	1.9715	0.6	4.6075	0.6699	11.3880
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:34:13	0.3634	81.8%	82.6%	0.4390	0.4396	81.2%	0.1301	0.1141	0.1286	
2	07:34:46	0.3883	82.5%	83.3%	0.4296	0.4401	82.1%	0.1214	0.1203	0.1213	
3	07:35:18	0.5311	82.8%	84.3%	0.4470	0.4286	82.8%	0.1316	0.1271	0.1307	
X		0.4276	82.4%	83.4%	0.4385	0.4361	82.0%	0.1277	0.1205	0.1269	
σ		0.0905	0.5%	0.8%	0.0087	0.0065	0.8%	0.0055	0.0065	0.0049	
%RSD		21.1736	0.6	1.0	1.9844	1.4807	1.0	4.3050	5.4142	3.8792	

K1610116-004 10/11/2016 7:37:49 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:37:49	90.0%	0.0140	0.9567	0.4857	1.5758	1.7078	80.7%	0.7772	4.8472	0.7165
2	07:38:22	89.4%	0.0070	0.9487	0.4052	1.5745	1.6445	81.3%	0.9488	4.2688	0.7557
3	07:38:54	86.6%	0.0117	0.8646	0.4135	1.6128	1.6490	80.0%	0.8589	4.5348	0.7318
X		88.7%	0.0109	0.9233	0.4348	1.5877	1.6671	80.6%	0.8617	4.5503	0.7347
σ		1.8%	0.0036	0.0510	0.0443	0.0217	0.0354	0.7%	0.0858	0.2895	0.0198
%RSD		2.1	32.9561	5.5245	10.1786	1.3697	2.1205	0.8	9.9616	6.3628	2.6923
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:37:49	1.3128	77.8%	79.0%	0.3895	0.4100	79.2%	0.0999	0.1059	0.1004	
2	07:38:22	1.2622	77.9%	79.4%	0.3867	0.3765	80.7%	0.1153	0.0979	0.1149	
3	07:38:54	1.1750	77.3%	79.3%	0.3904	0.3827	81.4%	0.1110	0.1138	0.1105	
X		1.2500	77.7%	79.2%	0.3889	0.3897	80.4%	0.1088	0.1059	0.1086	
σ		0.0697	0.3%	0.2%	0.0019	0.0178	1.1%	0.0079	0.0079	0.0074	
%RSD		5.5776	0.4	0.3	0.4927	4.5733	1.4	7.3069	7.5082	6.8440	

CCV2 10/11/2016 7:41:23 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:41:23	96.6%	24.9959	24.8798	25.1237	24.4583	25.0166	87.9%	25.8739	25.8642	26.1006
2	07:41:55	95.5%	25.2338	24.5042	24.7975	24.8284	24.6928	89.7%	25.5248	25.7904	25.9016
3	07:42:28	96.9%	24.4585	24.4513	25.2043	24.7818	24.9066	89.4%	25.7214	26.0856	25.8281
X		96.3%	24.8961	24.6118	25.0418	24.6895	24.8720	89.0%	25.7067	25.9134	25.9434
σ		0.7%	0.3972	0.2336	0.2154	0.2016	0.1646	0.9%	0.1750	0.1537	0.1410
%RSD		0.7	1.5953	0.9492	0.8603	0.8164	0.6620	1.1	0.6808	0.5930	0.5435
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:41:23	26.4272	85.8%	85.8%	25.1955	25.5468	81.3%	24.8122	24.8217	24.8001	
2	07:41:55	26.2884	86.5%	87.2%	25.6716	25.6266	83.1%	24.6796	24.6994	24.6808	
3	07:42:28	25.7016	86.0%	86.4%	26.1205	25.9544	83.5%	24.7230	24.7656	24.7075	
X		26.1391	86.1%	86.5%	25.6625	25.7093	82.6%	24.7383	24.7622	24.7295	
σ		0.3852	0.4%	0.7%	0.4626	0.2160	1.2%	0.0676	0.0612	0.0626	
%RSD		1.4736	0.4	0.8	1.8026	0.8402	1.4	0.2733	0.2473	0.2533	

CCB2 10/11/2016 7:48:02 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:48:02	97.0%	-0.0018	0.0128	0.0466	-0.0001	-0.0002	84.1%	0.0001	0.0504	0.2311
2	07:48:34	95.0%	-0.0026	0.0101	0.0098	0.0032	0.0003	86.9%	-0.0172	0.0657	0.0928
3	07:49:07	97.6%	-0.0049	0.0091	0.0404	0.0000	0.0001	87.6%	0.0042	0.0638	0.4258
x		96.5%	-0.0031	0.0107	0.0323	0.0010	0.0001	86.2%	-0.0043	0.0600	0.2499
σ		1.3%	0.0016	0.0019	0.0197	0.0019	0.0003	1.8%	0.0114	0.0083	0.1673
%RSD		1.4	52.1968	17.8111	61.1108	179.2866	304.5460	2.1	262.6356	13.8702	66.9444
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:48:02	0.0190	81.9%	80.4%	0.0089	0.0083	77.7%	0.0015	0.0007	0.0014	
2	07:48:34	-0.0467	83.7%	82.9%	0.0060	0.0072	79.5%	-0.0009	0.0024	-0.0007	
3	07:49:07	0.0412	84.7%	83.4%	0.0074	0.0090	80.4%	0.0004	0.0010	0.0003	
x		0.0045	83.4%	82.2%	0.0075	0.0082	79.2%	0.0003	0.0014	0.0004	
σ		0.0457	1.4%	1.6%	0.0015	0.0009	1.4%	0.0012	0.0009	0.0010	
%RSD		1015.0665	1.7	2.0	19.6712	11.2111	1.8	382.1641	64.6124	287.0659	

K1610116-001 DISS 10/11/2016 7:51:27 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:51:27	92.1%	0.0058	1.2155	0.9004	6.4603	6.5613	80.8%	1.8097	3.9414	0.1932
2	07:52:00	89.7%	0.0119	1.2438	0.9218	6.4576	6.5150	81.3%	1.9241	4.0913	0.4736
3	07:52:32	91.7%	0.0151	1.2165	0.9472	6.3874	6.5580	82.5%	2.0502	3.4685	0.3150
x		91.2%	0.0110	1.2252	0.9231	6.4351	6.5448	81.6%	1.9280	3.8337	0.3273
σ		1.3%	0.0047	0.0161	0.0234	0.0413	0.0258	0.9%	0.1203	0.3250	0.1406
%RSD		1.4	43.0927	1.3111	2.5385	0.6424	0.3943	1.1	6.2394	8.4781	42.9664
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:51:27	0.3507	77.5%	78.4%	1.3813	1.3782	78.6%	0.2884	0.2712	0.2879	
2	07:52:00	0.6977	79.3%	79.9%	1.3774	1.3710	80.3%	0.2825	0.2743	0.2807	
3	07:52:32	0.4843	80.4%	81.0%	1.3670	1.3616	80.9%	0.2811	0.2703	0.2799	
x		0.5109	79.1%	79.8%	1.3752	1.3702	79.9%	0.2840	0.2719	0.2828	
σ		0.1750	1.4%	1.3%	0.0074	0.0083	1.2%	0.0039	0.0021	0.0044	
%RSD		34.2612	1.8	1.6	0.5370	0.6078	1.5	1.3746	0.7722	1.5553	

K1610116-002 DISS 10/11/2016 7:55:07 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:55:07	93.2%	2.8433	1.0290	0.7331	2.5044	2.4558	85.0%	0.5158	4.2468	0.4471
2	07:55:40	94.7%	2.9177	1.1022	0.7150	2.5654	2.4914	86.0%	0.6660	3.6391	0.5464
3	07:56:12	94.4%	2.7752	1.0715	0.6847	2.5594	2.5266	85.6%	0.7628	3.9396	0.9015
x		94.1%	2.8454	1.0676	0.7109	2.5430	2.4913	85.5%	0.6482	3.9419	0.6317
σ		0.8%	0.0713	0.0368	0.0245	0.0336	0.0354	0.5%	0.1244	0.3039	0.2389
%RSD		0.9	2.5049	3.4426	3.4434	1.3220	1.4207	0.6	19.1941	7.7088	37.8194
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:55:07	0.2832	81.1%	82.4%	0.4616	0.4595	80.5%	0.0702	0.0754	0.0706	
2	07:55:40	0.2219	82.4%	84.0%	0.4614	0.4493	82.5%	0.0792	0.0759	0.0788	
3	07:56:12	0.6764	83.7%	83.7%	0.4668	0.4726	83.3%	0.0731	0.0755	0.0733	
x		0.3938	82.4%	83.4%	0.4633	0.4605	82.1%	0.0742	0.0756	0.0742	
σ		0.2466	1.3%	0.8%	0.0031	0.0117	1.4%	0.0046	0.0003	0.0042	
%RSD		62.6272	1.6	1.0	0.6620	2.5405	1.7	6.1410	0.3326	5.6269	

K1610116-002S DISS 10/11/2016 7:58:43 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	07:58:43	95.1%	5.2208	24.9889	25.3812	14.7764	14.9198	86.5%	55.1728	56.4567	54.8791
2	07:59:16	96.5%	5.2003	25.3985	25.0158	14.5850	14.7458	87.3%	55.5196	57.4331	54.0991
3	07:59:48	94.9%	5.2424	25.2761	25.1349	14.7270	14.8734	86.5%	55.4231	56.4244	55.4512
x		95.5%	5.2212	25.2212	25.1773	14.6961	14.8463	86.8%	55.3718	56.7714	54.8098
σ		0.8%	0.0210	0.2103	0.1864	0.0994	0.0901	0.4%	0.1790	0.5733	0.6787
%RSD		0.9	0.4031	0.8337	0.7402	0.6764	0.6067	0.5	0.3233	1.0098	1.2383
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	07:58:43	54.7810	83.3%	84.0%	53.6839	53.1023	82.4%	49.4201	51.2938	49.4887	
2	07:59:16	55.1394	84.8%	85.5%	53.4622	53.3720	84.2%	49.5808	51.5992	49.6979	
3	07:59:48	54.9484	85.2%	86.1%	53.0427	52.4355	84.1%	49.7563	51.8330	49.8649	
x		54.9563	84.4%	85.2%	53.3963	52.9699	83.6%	49.5858	51.5753	49.6838	
σ		0.1793	1.0%	1.1%	0.3257	0.4821	1.0%	0.1681	0.2704	0.1885	
%RSD		0.3263	1.2	1.3	0.6099	0.9101	1.2	0.3391	0.5242	0.3793	

K1610116-002SD DISS 10/11/2016 8:02:49 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:02:49	93.7%	5.2297	25.4775	25.2839	14.7685	14.9375	86.4%	55.1771	57.6217	54.2632
2	08:03:22	91.7%	5.4136	25.4679	25.3477	14.7433	14.7532	86.8%	54.6080	58.2710	55.5323
3	08:03:54	94.1%	5.2106	25.0340	25.0351	14.7043	14.7598	86.8%	54.6393	58.7821	53.8830
x		93.2%	5.2846	25.3265	25.2222	14.7387	14.8168	86.7%	54.8081	58.2249	54.5595
σ		1.3%	0.1121	0.2533	0.1652	0.0324	0.1046	0.2%	0.3199	0.5816	0.8637
%RSD		1.4	2.1211	1.0002	0.6550	0.2196	0.7057	0.2	0.5837	0.9989	1.5830
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:02:49	54.8104	83.0%	83.4%	53.6218	52.9256	81.7%	49.7110	51.8122	49.8377	
2	08:03:22	54.8158	83.5%	84.3%	53.6162	53.6909	83.6%	50.0981	51.9407	50.1929	
3	08:03:54	55.2290	83.5%	84.7%	53.7273	53.1593	84.1%	49.7322	51.8745	49.8489	
x		54.9517	83.3%	84.1%	53.6551	53.2586	83.2%	49.8471	51.8758	49.9598	
σ		0.2401	0.3%	0.7%	0.0626	0.3922	1.3%	0.2176	0.0643	0.2019	
%RSD		0.4370	0.4	0.8	0.1167	0.7364	1.5	0.4366	0.1239	0.4042	

K1610116-003 DISS 10/11/2016 8:06:44 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:06:44	92.2%	2.5966	1.1198	0.7519	2.5082	2.4770	83.1%	0.6774	4.6811	0.3844
2	08:07:16	92.4%	2.5559	1.1225	0.7060	2.4663	2.4087	83.5%	0.7405	4.3785	0.5042
3	08:07:49	90.5%	2.5532	1.1115	0.6557	2.4711	2.5524	83.8%	0.6732	4.1429	0.6250
x		91.7%	2.5686	1.1179	0.7045	2.4819	2.4793	83.5%	0.6970	4.4008	0.5045
σ		1.1%	0.0243	0.0057	0.0481	0.0230	0.0719	0.4%	0.0377	0.2698	0.1203
%RSD		1.2	0.9462	0.5121	6.8318	0.9248	2.8987	0.4	5.4154	6.1300	23.8373
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:06:44	0.6517	79.9%	80.9%	0.5033	0.4977	80.0%	0.0976	0.0949	0.0972	
2	08:07:16	0.5103	81.9%	82.8%	0.4987	0.5151	81.7%	0.0969	0.0857	0.0965	
3	08:07:49	0.3869	80.6%	82.0%	0.5207	0.4987	81.8%	0.0907	0.0893	0.0906	
x		0.5163	80.8%	81.9%	0.5076	0.5038	81.2%	0.0951	0.0900	0.0948	
σ		0.1325	1.0%	1.0%	0.0116	0.0097	1.0%	0.0038	0.0046	0.0036	
%RSD		25.6667	1.3	1.2	2.2901	1.9338	1.3	4.0043	5.1169	3.8200	

K1610116-004 DISS 10/11/2016 8:10:20 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:10:20	87.2%	0.0109	1.0468	0.5496	1.8591	1.9358	78.4%	0.8948	4.3066	1.0379
2	08:10:53	86.2%	0.0072	1.0028	0.5584	1.8535	1.8842	78.6%	0.9883	4.4200	0.6410
3	08:11:25	86.6%	0.0065	1.0215	0.5998	1.7419	1.8193	79.8%	0.8706	4.0923	0.5107
x		86.7%	0.0082	1.0237	0.5693	1.8181	1.8797	79.0%	0.9179	4.2730	0.7299
σ		0.5%	0.0024	0.0221	0.0268	0.0661	0.0584	0.8%	0.0622	0.1664	0.2746
%RSD		0.5	29.1540	2.1561	4.7102	3.6367	3.1069	1.0	6.7749	3.8941	37.6191
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:10:20	1.3906	76.4%	77.5%	0.6737	0.6791	78.3%	0.1106	0.0970	0.1097	
2	08:10:53	1.3987	76.2%	78.4%	0.6751	0.6506	80.3%	0.0991	0.1053	0.0996	
3	08:11:25	0.9841	77.2%	79.6%	0.6424	0.6177	81.5%	0.1011	0.1013	0.1018	
x		1.2578	76.6%	78.5%	0.6637	0.6491	80.0%	0.1036	0.1012	0.1037	
σ		0.2371	0.5%	1.1%	0.0185	0.0308	1.6%	0.0061	0.0042	0.0053	
%RSD		18.8493	0.7	1.4	2.7841	4.7388	2.0	5.9337	4.1256	5.1389	

K1610299-001 10/11/2016 8:14:00 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:14:00	87.1%	0.0058	0.9376	0.6411	2.2098	2.2306	77.9%	0.9687	3.7430	0.0931
2	08:14:34	87.6%	0.0108	0.9541	0.6572	2.2088	2.2420	78.2%	0.9170	3.7119	0.2118
3	08:15:06	86.4%	0.0042	0.9438	0.6465	2.1907	2.3271	78.1%	0.9117	3.7566	0.0725
x		87.0%	0.0070	0.9452	0.6483	2.2031	2.2666	78.0%	0.9325	3.7372	0.1258
σ		0.6%	0.0034	0.0083	0.0082	0.0107	0.0527	0.2%	0.0315	0.0229	0.0751
%RSD		0.7	49.2943	0.8783	1.2614	0.4866	2.3270	0.2	3.3728	0.6125	59.7312
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:14:00	0.7732	76.2%	77.3%	0.3615	0.3470	78.7%	0.0708	0.0651	0.0702	
2	08:14:34	0.5380	76.8%	78.4%	0.3597	0.3552	79.6%	0.0683	0.0705	0.0683	
3	08:15:06	0.6018	76.5%	78.0%	0.3600	0.3388	79.9%	0.0700	0.0717	0.0697	
x		0.6377	76.5%	77.9%	0.3604	0.3470	79.4%	0.0697	0.0691	0.0694	
σ		0.1216	0.3%	0.6%	0.0010	0.0082	0.6%	0.0013	0.0035	0.0010	
%RSD		19.0762	0.4	0.7	0.2705	2.3659	0.8	1.8384	5.0752	1.4628	

K1610299-001 DISS 10/11/2016 8:17:36 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:17:36	86.8%	0.0048	1.1360	0.8405	3.0814	3.1980	78.3%	1.0184	3.5488	0.2922
2	08:18:08	83.3%	0.0067	1.0731	0.7937	3.0849	3.0444	79.5%	1.0575	3.5435	0.4662
3	08:18:41	85.6%	-0.0002	1.1271	0.8284	3.1402	3.0296	78.3%	0.9874	3.6108	0.6881
x		85.2%	0.0037	1.1121	0.8208	3.1022	3.0907	78.7%	1.0211	3.5677	0.4821
σ		1.8%	0.0036	0.0341	0.0243	0.0330	0.0932	0.7%	0.0351	0.0375	0.1985
%RSD		2.1	95.6015	3.0637	2.9610	1.0630	3.0163	0.9	3.4398	1.0497	41.1633
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:17:36	0.4774	76.0%	77.6%	0.6263	0.6162	78.2%	0.0679	0.0674	0.0682	
2	08:18:08	0.5642	77.9%	79.1%	0.6382	0.6109	80.1%	0.0684	0.0700	0.0687	
3	08:18:41	0.4105	78.1%	79.0%	0.6235	0.5978	81.6%	0.0741	0.0635	0.0738	
x		0.4840	77.3%	78.6%	0.6293	0.6083	80.0%	0.0701	0.0670	0.0702	
σ		0.0771	1.2%	0.9%	0.0078	0.0095	1.7%	0.0034	0.0033	0.0031	
%RSD		15.9212	1.5	1.1	1.2387	1.5585	2.2	4.9156	4.8657	4.4130	

CCV3 10/11/2016 8:21:11 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:21:11	94.2%	24.4796	24.4041	24.6337	24.7708	24.9705	86.0%	25.2418	26.4098	26.8560
2	08:21:43	92.1%	24.9397	24.7315	24.4546	24.9983	24.9644	88.0%	25.8188	25.6285	26.2355
3	08:22:16	92.1%	24.8466	24.6543	25.1321	25.1297	25.0170	86.6%	25.9629	25.8420	26.1523
x		92.8%	24.7553	24.5966	24.7401	24.9663	24.9840	86.9%	25.6745	25.9601	26.4146
σ		1.2%	0.2433	0.1711	0.3511	0.1816	0.0288	1.0%	0.3816	0.4038	0.3845
%RSD		1.3	0.9828	0.6958	1.4190	0.7273	0.1151	1.2	1.4862	1.5556	1.4557
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:21:11	25.6017	84.4%	83.5%	25.7368	25.8408	80.4%	24.8493	24.8922	24.8445	
2	08:21:43	26.5090	84.7%	86.2%	25.4399	25.6399	82.5%	24.5916	24.8415	24.5869	
3	08:22:16	26.3691	85.4%	85.5%	25.6606	25.7761	82.7%	24.8608	24.9096	24.8423	
x		26.1599	84.8%	85.0%	25.6124	25.7523	81.9%	24.7672	24.8811	24.7579	
σ		0.4885	0.5%	1.4%	0.1542	0.1026	1.3%	0.1522	0.0354	0.1481	
%RSD		1.8674	0.6	1.6	0.6021	0.3983	1.6	0.6147	0.1422	0.5983	

CCB3 10/11/2016 8:27:43 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:27:43	94.4%	-0.0057	0.0058	0.0565	-0.0005	0.0017	81.1%	-0.0659	0.0928	0.4194
2	08:28:15	95.4%	-0.0047	0.0214	0.0441	-0.0066	0.0018	82.9%	-0.0200	0.1444	0.4918
3	08:28:48	93.3%	-0.0083	0.0192	0.0511	-0.0034	-0.0028	83.5%	0.0016	0.0181	0.2262
x		94.4%	-0.0062	0.0155	0.0506	-0.0035	0.0002	82.5%	-0.0281	0.0851	0.3792
σ		1.1%	0.0018	0.0085	0.0062	0.0030	0.0026	1.2%	0.0345	0.0635	0.1373
%RSD		1.1	29.2840	54.7066	12.2991	86.3502	1117.3202	1.5	122.6215	74.6249	36.2095
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:27:43	-0.1934	79.7%	77.8%	0.0065	0.0094	76.2%	0.0008	0.0031	0.0009	
2	08:28:15	0.0112	81.1%	80.4%	0.0074	0.0083	77.9%	0.0009	0.0032	0.0009	
3	08:28:48	-0.0306	81.6%	80.8%	0.0082	0.0059	78.4%	0.0036	0.0031	0.0035	
x		-0.0709	80.8%	79.6%	0.0074	0.0078	77.5%	0.0018	0.0031	0.0017	
σ		0.1081	1.0%	1.6%	0.0008	0.0018	1.2%	0.0016	0.0000	0.0015	
%RSD		152.4604	1.2	2.0	11.1071	22.9877	1.5	88.5786	1.2669	85.9291	

LLCCVW 10/11/2016 8:30:55 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	60Ni	62Ni	63Cu	65Cu	71Ga	75As	77Se	78Se
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:30:55	93.8%	0.0225	0.2195	0.2732	0.1012	0.1095	82.1%	0.7135	1.0311	1.4010
2	08:31:27	96.1%	0.0138	0.2317	0.2464	0.1086	0.1002	83.3%	0.5363	0.9775	1.4699
3	08:32:00	93.9%	0.0124	0.2401	0.2253	0.0980	0.1126	84.3%	0.5395	1.0116	1.3027
x		94.6%	0.0162	0.2304	0.2483	0.1026	0.1074	83.2%	0.5964	1.0067	1.3912
σ		1.3%	0.0055	0.0104	0.0240	0.0054	0.0065	1.1%	0.1014	0.0271	0.0840
%RSD		1.4	33.7266	4.5057	9.6781	5.2760	6.0259	1.3	16.9958	2.6962	6.0413
Run	Time	82Se	103Rh	115In	121Sb	123Sb	175Lu	206Pb	207Pb	208Pb	
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
1	08:30:55	1.5481	79.9%	78.2%	0.0594	0.0533	76.6%	0.0208	0.0214	0.0209	
2	08:31:27	0.9855	82.1%	80.2%	0.0618	0.0524	77.8%	0.0188	0.0268	0.0193	
3	08:32:00	1.0025	82.2%	80.7%	0.0564	0.0574	78.5%	0.0228	0.0232	0.0228	
x		1.1787	81.4%	79.7%	0.0592	0.0544	77.6%	0.0208	0.0238	0.0210	
σ		0.3200	1.3%	1.3%	0.0027	0.0027	1.0%	0.0020	0.0027	0.0018	
%RSD		27.1533	1.6	1.6	4.5590	4.9143	1.3	9.6833	11.5396	8.4773	

Service Request # KQ1610299 Redigest
 Calibration 101616BMS04
 QC in calibration 101616BMS04
 QC Service Request # K1610299
 STARLIMS run # 518963
 CAL STD MS21-3-B ICSA STD MS21-3-B
 ICV STD MS21-2-K ICSAB STD MS21-3-C
 LLICV STD MS21-2-L
 Internal STD MS20-58-A

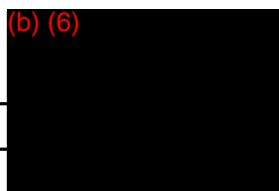
6020 DOD Data Review Form

	Yes	No	NA
1. Mass calibration <0.1 amu?	X		
2. Resolution <0.9 amu at 10% peak height?	X		
3. Stability RSD ≤5% for five replicates?	X		
4. Appropriate standardization completed?	X		
5. ICV within 10% of true value?	X		
6. CCV's within 10% of true?	X		
7. ICB/CCB's <LOD?	X		
8. Initial Low-level cal. check ± 20%	X		
9. ICSA/ICSAB within ± 20%	X		
10. Method blank <½ the LOQ?	X		
11. LCS within DoD limit?	X		
12. Spikes within DoD limit?	X		
13. Duplicate Spike RPD <20% DoD limit?	X		
14. Serial dilution within 10%?	X		
15. Post spike within 80-120% DoD limit?	X		
16. Internal standards within 30-120%?	X		
17. Linear range established with High CCV?		X	
18. Adequate rinse out time allowed?	X		
19. Interferences checked?	X		
20. Se over MRL?	X		
21. Cd Correction Applied?		X	
22. Was run prematurely stopped, If so why?		X	

Comments: LRSTD : 50ppb

*Zn diss > Zn total. Bottlecheck confirms.
 8/10/17/16*

Primary Review by
 Secondary Review by



Date 10/16/16
 Date 10/17/16

Data Review Form

Service Request #: K1610299
Instrument ID#: K-ICP-MS-04
DataFile Name: R:\ICP\WIP\DATA\K-ICP-MS-04 (NexION)\101616b.TXT
RUNNO: 518963

There are no issues to report.

Primary Approver: _____
Secondary Approver: _____

(b) (6)

10/16/16

J 10/17/16

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\NexIONData\Wizard\SmartTune\CAS SmartTune Full FAST.swz

Optimization Status

Start Time: 10/16/2016 10:27:08 AM

Mass Calibration and Resolution

Optimization Settings:

Method: C:\NexIONData\Method\CAS Tuning.mth.

MassCal File: C:\NexIONData\MassCal\Default.tun

Iterations: 6

Target accuracy (+/- amu): 0.1 for Mass Cal. and 0.1 for Resolution

Peak height (%) for Res. Opt.: 5

Optimization Results:

Initial Try

Target/Obtained mass (7.016/7.075), Target/Obtained resolution (0.7/0.683)
Target/Obtained mass (9.0122/9.025), Target/Obtained resolution (0.7/0.710)
Target/Obtained mass (23.985/23.975), Target/Obtained resolution (0.7/0.691)
Target/Obtained mass (58.9332/58.925), Target/Obtained resolution (0.7/0.713)
Target/Obtained mass (114.904/114.925), Target/Obtained resolution (0.7/0.719)
Target/Obtained mass (139.905/139.975), Target/Obtained resolution (0.7/0.699)
Target/Obtained mass (207.977/207.975), Target/Obtained resolution (0.7/0.692)
Target/Obtained mass (208.98/208.975), Target/Obtained resolution (0.7/0.708)
Target/Obtained mass (238.05/238.025), Target/Obtained resolution (0.7/0.692)

[Passed] Optimum value(s): N/A

Daily Performance Report

Sample ID: Daily Performance Check

Sample Date/Time: Sunday, October 16, 2016 10:33:45

Sample Description:

Method File: C:\NexIONData\Method\CAS Daily Performance.mth

Dataset File: C:\NexIONData\Dataset\Default\Daily Performance Check.3901

MassCal File: C:\NexIONData\MassCal\Default.tun

Conditions File: C:\NexIONData\Conditions\Default.dac

Dual Detector Mode: Pulse

Acq. Dead Time (ns): 35

Current Dead Time (ns): 35

Torch Z position (mm): 0.00

Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
Li	7.0	48434.6	48434.577	1648.886	3.4	Standard
Be	9.0	9269.1	9269.142	326.988	3.5	Standard
Mg	24.0	44077.0	44076.981	884.529	2.0	Standard
Co	58.9	30789.2	30789.167	929.096	3.0	Standard
In	114.9	62970.8	62970.833	1751.622	2.8	Standard
Pb	208.0	73398.8	73398.843	1768.496	2.4	Standard
Bi	209.0	58265.0	58265.044	1550.520	2.7	Standard
U	238.1	48848.9	48848.865	916.656	1.9	Standard
[CeO	155.9	1363.9	0.017	0.000	2.9	Standard
|> Ce	139.9	79919.2	79919.241	1342.814	1.7	Standard
[Ce++	70.0	1408.6	0.018	0.000	2.5	Standard
Bkgd	220.0	0.7	0.667	0.667	100.0	Standard

Replicates

Repeat 1

Analyte	Mass	Meas. Intensity
Li	7	48268.741
Be	9	9261.001
Mg	24	43943.482
Co	59	30453.091
In	115	64730.989
Pb	208	74728.376
Bi	209	60092.122
U	238	48478.115
CeO	156	1404.069
Ce	140	80998.980
Ce++	70	1426.738
Bkgd	220	0.000

Repeat 2

Analyte	Mass	Meas. Intensity
Li	7	51247.757
Be	9	9813.369
Mg	24	44708.517
Co	59	32071.293
In	115	64076.046
Pb	208	73945.235
Bi	209	58524.969
U	238	49091.538
CeO	156	1405.402
Ce	140	80281.614
Ce++	70	1460.075
Bkgd	220	0.667

Repeat 3

Analyte	Mass	Meas. Intensity
Li	7	46937.650
Be	9	8944.799
Mg	24	42671.635
Co	59	29585.270
In	115	60203.255

Pb	208	70300.885
Bi	209	56027.653
U	238	47472.078
CeO	156	1278.057
Ce	140	77643.761
Ce++	70	1388.734
Bkgd	220	1.333

Repeat 4

Analyte	Mass	Meas. Intensity
Li	7	47984.453
Be	9	9119.577
Mg	24	44126.712
Co	59	30591.386
In	115	62541.937
Pb	208	74233.562
Bi	209	57567.758
U	238	49339.724
CeO	156	1406.736
Ce	140	80777.733
Ce++	70	1376.066
Bkgd	220	1.333

Repeat 5

Analyte	Mass	Meas. Intensity
Li	7	47734.283
Be	9	9206.966
Mg	24	44934.558
Co	59	31244.798
In	115	63301.940
Pb	208	73786.155
Bi	209	59112.715
U	238	49862.869
CeO	156	1325.395
Ce	140	79894.118
Ce++	70	1391.401
Bkgd	220	0.000

Current Conditions File Data

Current Value	Description
0.86	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
16.00	Plasma Gas Flow
-9.50	Deflector Voltage
1600.00	ICP RF Power
-1712.00	Analog Stage Voltage
1200.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-14.50	Cell Rod Offset STD [CRO]
8.00	Discriminator Threshold
-5.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
0.86	DRC Mode NEB
-6.50	DRC Mode QRO
-1.50	DRC Mode CRO
-10.00	DRC Mode Cell Entrance/Exit Voltage
3.50	Cell Gas A
0.00	Cell Gas B
280.00	Axial Field Voltage
-15.00	KED Mode CRO
-12.00	KED Mode QRO
-4.00	KED Mode Cell Entrance Voltage
-40.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
5.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
475.00	KED Mode Axial Field Voltage

LABWORKS - Summary Report

Sample ID: Blank

Sample Date/Time: Sunday, October 16, 2016 11:11:55

Sample Description:

Autosampler Position: 1

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\Blank.002

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66		18.0	45.5			ppb
>	Ge-KED3	72		30736.0	11.9			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std	% Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66						
[>	Ge-KED3	72						

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: Blank

Report Date/Time: Sunday, October 16, 2016 11:48:28

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LABWORKS - Summary Report

Sample ID: Standard 1

Sample Date/Time: Sunday, October 16, 2016 11:13:23

Sample Description:

Autosampler Position: 2

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\Standard 1.003

User Name: JDB

Batch ID:

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[Zn-KED3	66	4310.3	7.8	25.00000	1.7	ppb
72	29829.2	8.2			ppb	

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
Ge-KED3	72						

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: ICV

Sample Date/Time: Sunday, October 16, 2016 11:14:52

Sample Description:

Autosampler Position: 3

Number of Replicates: 3

Dataset File: C:\Nex\ONData\DataSet\101616B\ICV.004

User Name: JDB

Batch ID:

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Zn-KED3	66	4550.1	5.6	25.94096	2.2	ppb
Ge-KED3	72	30373.7	7.5			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
	Zn-KED3	66		104			
	Ge-KED3	72			99		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: CCV

Sample Date/Time: Sunday, October 16, 2016 11:16:21

Sample Description:

Autosampler Position: 2

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\CCV.005

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[>	Zn-KED3	66	4417.4	11.7	24.79302	4.4	ppb
	Ge-KED3	72	30771.3	8.6			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66		99			
Ge-KED3	72			100			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: ICB

Sample Date/Time: Sunday, October 16, 2016 11:17:50

Sample Description:

Autosampler Position: 1

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\ICB.006

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	5.3	21.7	-0.07319	6.0	ppb
>	Ge-KED3	72	32331.2	11.9			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
>	Ge-KED3	72		105			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: CCB

Sample Date/Time: Sunday, October 16, 2016 11:19:20

Sample Description:

Autosampler Position: 1

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\CCB.007

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66		5.0	20.0	-0.07454	8.1	ppb
Ge-KED3	72	32141.9		5.6			ppb	

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std	% Recovery	IS % Recovery	Spike % R	Duplicate Rel.	% Difference	Dilution % Difference
[	Zn-KED3	66							
Ge-KED3	72			105					

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: LLICVW

Sample Date/Time: Sunday, October 16, 2016 11:20:49

Sample Description:

Autosampler Position: 4

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\LLICVW.008

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens.	Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66		129.0	6.1	0.55574	19.3	ppb
>	Ge-KED3	72		34432.4	9.6			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66		111			
>	Ge-KED3	72			112		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: ICSA

Sample Date/Time: Sunday, October 16, 2016 11:22:18

Sample Description:

Autosampler Position: 5

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\ICSA.009

User Name: JDB

Batch ID:

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Zn-KED3	66	65.7	12.2	0.26661	14.9	ppb
Ge-KED3	72	31036.9	10.2			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
	Zn-KED3	66					
	Ge-KED3	72		101			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: ICSAB

Sample Date/Time: Sunday, October 16, 2016 11:23:47

Sample Description:

Autosampler Position: 6

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\ICSAB.010

User Name: JDB

Batch ID:

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
Zn-KED3	66	4165.6	2.2	22.51186	3.6	ppb
Ge-KED3	72	32007.2	2.7			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
	Zn-KED3	66		90			
	Ge-KED3	72			104		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: MO STD

Sample Date/Time: Sunday, October 16, 2016 11:25:15

Sample Description:

Autosampler Position: 7

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616BMO STD.011

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	15.7	24.2	-0.02462	95.5	ppb
>	Ge-KED3	72	35705.3	6.0			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
>	Ge-KED3	72		116			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: KQ1612913-01

Sample Date/Time: Sunday, October 16, 2016 11:26:45

Sample Description:

Autosampler Position: 301

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\KQ1612913-01.012

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	11.3	27.0	-0.04282	41.6	ppb
>	Ge-KED3	72	33632.4	7.3			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
[>	Ge-KED3	72		109			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: KQ1612913-02

Sample Date/Time: Sunday, October 16, 2016 11:28:14

Sample Description:

Autosampler Position: 302

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\KQ1612913-02.013

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	5343.0	6.9	26.06412	3.3	ppb
Ge-KED3	72	35434.3	3.6			ppb	

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
Ge-KED3	72		115				

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: K1610299-001

Sample Date/Time: Sunday, October 16, 2016 11:29:43

Sample Description:

Autosampler Position: 303

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\K1610299-001.014

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	668.0	1.6	3.62206	1.5	ppb
>	Ge-KED3	72	31158.3	2.0			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
>	Ge-KED3	72		101			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: K1610299-001L

Sample Date/Time: Sunday, October 16, 2016 11:31:12

Sample Description: 5

Autosampler Position: 304

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\K1610299-001L.015

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	157.0	9.8	0.75193	11.1	ppb
>	Ge-KED3	72	31939.7	0.7			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
>	Ge-KED3	72		104			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: K1610299-001A

Sample Date/Time: Sunday, October 16, 2016 11:32:41

Sample Description: +20ppb

Autosampler Position: 305

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\K1610299-001A.016

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	5079.9	5.2	24.44791	3.6	ppb
>	Ge-KED3	72	35939.2	4.3			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
[>	Ge-KED3	72		117			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: K1610299-001S

Sample Date/Time: Sunday, October 16, 2016 11:34:09

Sample Description:

Autosampler Position: 306

Number of Replicates: 3

Dataset File: C:\Nex\ONData\DataSet\101616B\K1610299-001S.017

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	6400.8	2.8	30.18256	0.9	ppb
>	Ge-KED3	72	36702.8	2.1			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
>	Ge-KED3	72		119			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: K1610299-001SD

Sample Date/Time: Sunday, October 16, 2016 11:35:38

Sample Description:

Autosampler Position: 307

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\K1610299-001SD.018

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	6276.0	2.7	30.24013	3.0	ppb
>	Ge-KED3	72	35924.4	0.7			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
[>	Ge-KED3	72		117			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: K1610299-001

Sample Date/Time: Sunday, October 16, 2016 11:37:07

Sample Description:

Autosampler Position: 308

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\K1610299-001.019

User Name: JDB

Batch ID: D

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	1284.1	3.6	6.01406	1.4	ppb
] >	Ge-KED3	72	36478.6	4.9			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std	% Recovery	IS % Recovery	Spike % R	Duplicate Rel.	% Difference	Dilution % Difference
[	Zn-KED3	66							
[>	Ge-KED3	72			119				

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: CCV

Sample Date/Time: Sunday, October 16, 2016 11:38:38

Sample Description:

Autosampler Position: 2

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\CCV.020

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	4839.5	3.0	24.26679	4.9	ppb
>	Ge-KED3	72	34523.4	3.7			ppb

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66		97			
>	Ge-KED3	72			112		

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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Sample ID: CCV

Report Date/Time: Sunday, October 16, 2016 11:48:56

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LABWORKS - Summary Report

Sample ID: CCB

Sample Date/Time: Sunday, October 16, 2016 11:40:07

Sample Description:

Autosampler Position: 1

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\CCB.021

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	4.7	65.5	-0.07908	18.2	ppb
Ge-KED3	72	35491.4	2.3			ppb	

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
Ge-KED3	72		115				

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: LLCCVW

Sample Date/Time: Sunday, October 16, 2016 11:41:37

Sample Description:

Autosampler Position: 4

Number of Replicates: 3

Dataset File: C:\NexIONData\DataSet\101616B\LLCCVW.022

User Name: JDB

Batch ID:

Concentration Results

	Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[	Zn-KED3	66	132.3	6.8	0.55672	5.0	ppb
Ge-KED3	72	34910.7	5.9			ppb	

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std	% Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66		111				
Ge-KED3	72			114				

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABWORKS - Summary Report

Sample ID: 50ppb LR

Sample Date/Time: Sunday, October 16, 2016 11:44:02

Sample Description:

Autosampler Position: 309

Number of Replicates: 3

Dataset File: C:\Nex\ONData\DataSet\101616B\50ppb LR.023

User Name: JDB

Batch ID:

Concentration Results

Analyte	Mass	Meas. Intens. Mean	Meas. Intens. RSD	Conc. Mean	Conc. RSD	Sample Unit
[Zn-KED3	66	10051.9	1.1	50.06717	2.6	ppb
72	34804.7	1.5			ppb	

QC Calculated Values

IS Symbol	Analyte	Mass	QC Std % Recovery	IS % Recovery	Spike % R	Duplicate Rel. % Difference	Dilution % Difference
[	Zn-KED3	66					
[>	Ge-KED3	72		113			

QC Out of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
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LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

ARCADIS U.S., Inc.
401 E. Main Street, Suite 400
El Paso, TX 79901

November 11, 2016

(b) (6)

SUBJECT: Fort Bliss, Castner Range, Data Validation

(b) (6)

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on September 25, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #37346:

<u>SDG #</u>	<u>Fraction:</u>
K1610116	Metals
K1610299	

The data validation was performed under Level III & IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Quality Assurance Project Plan, Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas, February 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, 5.0, July 2013
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

(b) (6)

[illegible]

**Data Validation Report
Fort Bliss, Castner Range**

SDGs: K1610116, K1610299

Prepared for

Arcadis U.S., Inc.
401 E. Main Street, Suite 400
El Paso, TX 79901

Prepared by

Laboratory Data Consultants, Inc.
2701 Loker Ave West, Suite 220
Carlsbad, CA 92010

November 10, 2016

INTRODUCTION

This Data Validation Report (DVR) presents Level III and IV data validation results for samples collected during the August through September 2016 sampling period. Data validation was performed in accordance with the Final Quality Assurance Project Plan (QAPP), Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas (February 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and the USEPA CLPNFG Inorganic Superfund Data Review (October 2004). Where specific guidance is not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Metals by EPA SW 846 Method 6020A

The sample identification and methods of analyses performed on each sample is presented in Attachment 1. Overall data qualification summary is presented in Attachment 2. Level III Automated Data Review outliers are presented in Enclosure I. DVRs for samples on which Level IV validation was performed are presented in Enclosure II.

All sample results were subjected to Level III data validation, which comprises an evaluation of quality control (QC) summary results for sample holding times, instrument performance check, initial and continuing calibrations, laboratory blanks, initial and continuing calibration blanks (ICB/CCBs), equipment blanks, interference check (ICSA and ICSAB) samples, matrix spike/matrix spike duplicates (MS/MSD), serial dilution, laboratory control sample (LCS), field duplicate samples, and internal standards. Approximately 20 percent of samples were subjected to Level IV evaluation as indicated in Attachment 1, which comprised a review of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

Automated data review was performed on all QC summary results using the Automated Data Review (ADR) software program (LDC, 2013) with exception of the instrument performance check, calibrations, interference check samples, ICB/CCBs, serial dilution, and internal standards which were validated manually. Quality assurance (QA)/QC criteria specified in the QAPP, DoD QSM and CLPNFGs were incorporated with the program's reference library to assess compliance with project requirements.

The following are definitions of the data qualifiers:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the analyte should be considered non-detect at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NJ (Presumptive). Presumptive evidence of presence of the compound at an estimated quantity.
- NA (Not applicable): Data did not warrant qualification since detected results only are affected and the compound was not detected in the associated samples.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt & Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Instrument Performance Check

Instrument performance was checked at the frequency required by the method.

All criteria for the instrument performance check were met.

III. Initial Calibration and Initial Calibration Verification

All criteria for the initial calibration and initial calibration verifications of the method were met.

IV. Continuing Calibration

All criteria for the continuing calibration verifications (CCV) of the method were met.

V. Laboratory Blanks

Laboratory blanks were performed as required by the method. No contaminant concentrations were detected in the method blanks reviewed by ADR.

No contaminant concentrations were detected in the initial or continuing calibration blanks with the following exceptions:

SDG/ Method	Blank ID	Analyte	Maximum Concentration	Associated Samples
K1610116/ 6020A	ICB/CCB	Antimony	0.007 ug/L	FTBL-SP-01-082416 FTBL-SP-03-082916 FD082916 FTBL-SP-05-082916
K1610116/ 6020A	ICB/CCB	Antimony	0.008 ug/L	FTBL-SP-01-082416F FTBL-SP-03-082916F FD082916F FTBL-SP-05-082916F
K1610299/ 6020A	ICB/CCB	Antimony	0.008 ug/L	All samples in SDG K1610299

Sample concentrations were compared to concentrations detected in the initial or continuing calibration blanks. The sample concentrations were not detected or were significantly greater than the concentrations found in the associated blanks, therefore no data were qualified.

VI. Field Blanks

No field blanks were identified in these SDGs.

VII. ICP Interference Check Sample (ICS) Analysis

The frequency of ICS analysis was met.

The criteria for ICS analysis were met.

VIII. Surrogates

Surrogates were not required by the method.

IX. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were performed on an associated project sample. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

X. Duplicate Sample Analysis/Triplicate Sample Analysis

The laboratory has indicated that there were no duplicates (DUP) and triplicate (TRP) analyses specified for the samples in these SDGs, and therefore duplicate and triplicate analyses were not performed.

XI. Serial Dilution

Serial dilution analysis was performed on an associated project sample. The percent differences (%D) were within QC limits.

XII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XIII. Field Duplicates

One field duplicate pair was collected and analyzed for metals. All RPDs were within QC limits. The field duplicate result comparisons are provided in Enclosure I.

XIV. Internal Standards

All internal standard areas percent recoveries were within QC limits.

XV. Compound Quantitation

The laboratory reporting limits were evaluated. All laboratory reporting limits met the specified requirements.

The results for the dissolved metals sample analysis were greater than the total metals sample analysis as follows:

SDG/Method	Analyte	Concentration (ug/L)	
		FTBL-SP-01-082416	FTBL-SP-01-082416F
K1610116/6020A	Antimony	1.05	1.37
K1610116/6020A	Copper	4.82	6.54

SDG/Method	Analyte	Concentration (ug/L)	
		FTBL-SP-05-082916	FTBL-SP-05-082916F
K1610116/6020A	Antimony	0.390	0.649

SDG/Method	Analyte	Concentration (ug/L)	
		FTBL-SP-07-090116	FTBL-SP-07-090116F
K1610299/6020A	Antimony	0.347	0.608
K1610299/6020A	Copper	2.27	3.09
K1610299/6020A	Zinc	3.62	6.01

All compounds reported below the limit of quantitation (LOQ) as detected by the laboratory were qualified as detected estimated (J). The details regarding the qualification of data are provided in Enclosure I.

XVI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in these SDGs.

Due to results being reported below the LOQ, data were qualified as estimated in three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Data flags are summarized and are presented as Attachment 2

Attachment 1
Sample Cross Reference

Sample Cross Reference

Date Collected	Field Sample ID	Lab Sample ID	Sample Type	Prep Method	Analytical Method	Review Level
24-Aug-2016	FTBL-SP-01-082416	K1610116-001	N	CLFAA	6020A	III
24-Aug-2016	FTBL-SP-01-082416	K1610116-001DISS	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-05-082916	K1610116-004	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-05-082916	K1610116-004DISS	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916	K1610116-002	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916	K1610116-002DISS	N	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916MSD	K1610116-002DISSDMS	MSD	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916MS	K1610116-002DISSMS	MS	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916MS	K1610116-002MS	MS	CLFAA	6020A	III
29-Aug-2016	FTBL-SP-03-082916MSD	K1610116-002SD	MSD	CLFAA	6020A	III
29-Aug-2016	FD082916	K1610116-003	FD	CLFAA	6020A	III
29-Aug-2016	FD082916	K1610116-003DISS	FD	CLFAA	6020A	III
01-Sep-2016	FTBL-SP-07-090116	K1610299-001	N	CLFAA	6020A	IV
01-Sep-2016	FTBL-SP-07-090116	K1610299-001DISS	N	CLFAA	6020A	IV
01-Sep-2016	FTBL-SP-07-090116RE	K1610299-001DISSRE	N	CLFAA	6020A	IV
01-Sep-2016	FTBL-SP-07-090116MS	K1610299-001MS	MS	CLFAA	6020A	IV
01-Sep-2016	FTBL-SP-07-090116MSD	K1610299-001SD	MSD	CLFAA	6020A	IV

III = EPA Level 3 Data Review
IV = EPA Level 4 Data Validation

N = Normal Sample
FD = Field Duplicate

TB = Trip Blank
FB = Field Blank

MS = Matrix Spike
MSD = Matrix Spike Duplicate

Attachment 2
Overall Data Qualification Summary

Data Qualifier Summary

Lab Reporting Batch ID: K1610116, K1610299

Laboratory: ALS_K

EDD Filename: K1610116_SEDD2A_rev,
K1610299_SEDD2A_rev

eQAPP Name: Arcadis_FtBliss_ALS_160627

SDG: K1610116

Method Category: METALS

Method: 6020A

Matrix: Water

Sample ID: FTBL-SP-01-082416 **Collected:** 8/24/2016 12:25:00 PM

Analysis Type: Initial/DIS

Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.011	J	0.020	LOD	0.020	LOQ	ug/L	J	RI

Sample ID: FTBL-SP-05-082916 **Collected:** 8/29/2016 11:30:00 AM

Analysis Type: Initial/DIS

Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.008	J	0.020	LOD	0.020	LOQ	ug/L	J	RI

Sample ID: FTBL-SP-05-082916 **Collected:** 8/29/2016 11:30:00 AM

Analysis Type: Initial/TOT

Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.011	J	0.020	LOD	0.020	LOQ	ug/L	J	RI

SDG: K1610299

Method Category: METALS

Method: 6020A

Matrix: Water

Sample ID: FTBL-SP-07-090116 **Collected:** 9/1/2016 9:30:00 AM

Analysis Type: Initial/TOT

Dilution: 1.0

Analyte	Lab Result	Lab Qual	DL	DL Type	RL	RL Type	Units	Data Review Qual	Reason Code
BERYLLIUM	0.007	J	0.020	LOD	0.020	LOQ	ug/L	J	RI

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

11/10/2016 8:37:20 AM

ADR version 1.9.0.325

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Data Qualifier Summary

Lab Reporting Batch ID: K1610116, K1610299

Laboratory: ALS_K

EDD Filename: K1610116_SEDD2A_rev,
K1610299_SEDD2A_rev

eQAPP Name: Arcadis_FtBliss_ALS_160627

Reason Code Legend

<i>Reason Code</i>	<i>Description</i>
RI	Reporting Limit Trace Value

* denotes a non-reportable result

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

11/10/2016 8:37:20 AM

ADR version 1.9.0.325

Page 2 of 2

Enclosure I
Level III ADR Outliers
(Including Manual Review Outliers)

Quality Control Outlier Reports

K1610116

Reporting Limit Outliers

Lab Reporting Batch ID: K1610116

Laboratory: ALS_K

EDD Filename: K1610116_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Water

<i>SampleID</i>	<i>Analyte</i>	<i>Lab Qual</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>RL Type</i>	<i>Units</i>	<i>Flag</i>
FTBL-SP-01-082416	BERYLLIUM	J	0.011	0.020	LOQ	ug/L	J (all detects)
FTBL-SP-05-082916	BERYLLIUM	J	0.008	0.020	LOQ	ug/L	J (all detects)

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

11/2/2016 1:49:33 PM

ADR version 1.9.0.325

Page 1 of 1

Field Duplicate RPD Report

Lab Reporting Batch ID: K1610116

Laboratory: ALS_K

EDD Filename: K1610116_SEDD2A_rev

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Water

Analyte	Concentration (ug/L)		Sample RPD	eQAPP RPD	Flag
	FTBL-SP-03-082916 (Dissolved)	FD082916 (Dissolved)			
ANTIMONY	0.460	0.504	9	35.00	No Qualifiers Applied
ARSENIC	0.6	0.7	15	35.00	
BERYLLIUM	2.85	2.57	10	35.00	
COPPER	2.49	2.48	0	35.00	
LEAD	0.074	0.095	25	35.00	
NICKEL	1.07	1.12	5	35.00	
Analyte	Concentration (ug/L)		Sample RPD	eQAPP RPD	Flag
	FTBL-SP-03-082916 (Total)	FD082916 (Total)			
ANTIMONY	0.429	0.436	2	35.00	No Qualifiers Applied
ARSENIC	0.7	0.6	15	35.00	
BERYLLIUM	3.03	2.95	3	35.00	
COPPER	2.70	2.81	4	35.00	
LEAD	0.117	0.127	8	35.00	
NICKEL	1.08	1.13	5	35.00	

Project Name and Number: 06261038.0001.00400 - Closed Castner Firing Range

11/10/2016 8:52:29 AM

ADR version 1.9.0.325

Page 1 of 1

LDC #: 37346A4a
 SDG #: K1610116
 Laboratory: ALS Environmental

VALIDATION COMPLETENESS WORKSHEET ADR

Date: 10/1/16

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	/N	
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	ICB/CCB only
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	N	
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	A	
X.	Laboratory control samples	N	
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	SW	
XIV.	Overall Assessment of Data	N	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
 SW = See worksheet FB = Field blank EB = Equipment blank

Samples appended with F were analyzed as dissolved.

	Client ID	Lab ID	Matrix	Date
1	FTBL-SP-01-082416	K1610116-001	Water	08/24/16
2	FTBL-SP-03-082916	K1610116-002	Water	08/29/16
3	FD082916	K1610116-003	Water	08/29/16
4	FTBL-SP-05-082916	K1610116-004	Water	08/29/16
5	FTBL-SP-01-082416F	K1610116-001F	Water	08/24/16
6	FTBL-SP-03-082916F	K1610116-002F	Water	08/29/16
7	FD082916F	K1610116-003F	Water	08/29/16
8	FTBL-SP-05-082916F	K1610116-004F	Water	08/29/16
9	FTBL-SP-03-082916MS	K1610116-002MS	Water	08/29/16
10	FTBL-SP-03-082916MSD	K1610116-002MSD	Water	08/29/16
11	FTBL-SP-03-082916FMS	K1610116-002FMS	Water	08/29/16
12	FTBL-SP-03-082916FMSD	K1610116-002FMSD	Water	08/29/16
13				
14				

Notes:

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

(b) (6)

METHOD: Metals (EPA SW 864 Method 6010/6020/7000)

Soil preparation factor applied: _____

Sample Concentration units, unless otherwise noted: _____ ug/L Associated Samples: _____ 1-4

(b) (6)

					Sample Identification									
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Blank Action Limit	No Qual.									
Sb			0.007	0.035										

Sample Concentration units, unless otherwise noted: _____ ug/L Associated Samples: _____ 5-8

					Sample Identification									
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/L)	Maximum ICB/CCB ^a (ug/L)	Blank Action Limit	No Qual.									
Sb			0.008	0.04										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

VALIDATION FINDINGS WORKSHEET

Sample Result Verification

(b) (6)

METHOD: Metals (EPA SW 846 Method 6010/6020/7000)

[illegible]

Comments: _____

Quality Control Outlier Reports

K1610299

Reporting Limit Outliers

Lab Reporting Batch ID: K1610299

Laboratory: ALS_K

EDD Filename: K1610299_SEDD2A

eQAPP Name: Arcadis_FtBliss_ALS_160627

Method: 6020A

Matrix: Water

<i>SampleID</i>	<i>Analyte</i>	<i>Lab Qual</i>	<i>Result</i>	<i>Reporting Limit</i>	<i>RL Type</i>	<i>Units</i>	<i>Flag</i>
FTBL-SP-07-090116	BERYLLIUM	J	0.007	0.020	LOQ	ug/L	J (all detects)

Enclosure II
Level IV Data Validation Reports

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Fort Bliss, Castner Range

LDC Report Date: November 11, 2016

Parameters: Metals

Validation Level: Level IV

Laboratory: ALS Environmental

Sample Delivery Group (SDG): K1610299

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
FTBL-SP-07-090116	K1610299-001	Water	09/01/16
FTBL-SP-07-090116F	K1610299-001F	Water	09/01/16
FTBL-SP-07-090116MS	K1610299-001MS	Water	09/01/16
FTBL-SP-07-090116MSD	K1610299-001MSD	Water	09/01/16

Samples appended with F were analyzed for dissolved

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Quality Assurance Project Plan, Military Munitions Response Program Remedial Investigation, Closed Castner Firing Range, Fort Bliss, El Paso, Texas (February 2015), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines (CLPNFG) for Inorganic Superfund Data Review (October 2004). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Antimony, Arsenic, Beryllium, Copper, Lead, Nickel, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6020A

All sample results were subjected to Level IV evaluation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias; while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. ICPMS Tune

The mass calibration was within 0.1 AMU and the percent relative standard deviation (%RSD) was less than or equal to 5%.

III. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

IV. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Antimony	0.008 ug/L	All samples in SDG K1610299

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

IX. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

X. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

XI. Field Duplicates

No field duplicates were identified in this SDG.

XII. Internal Standards (ICP-MS)

All internal standard percent recoveries (%R) were within QC limits.

XIII. Sample Result Verification

All sample result verifications were acceptable.

The results for the dissolved metals sample analysis were greater than the total metals sample analysis as follows:

Analyte	Concentration (ug/L)	
	FTBL-SP-07-090116	FTBL-SP-07-090116F
Antimony	0.347	0.608
Copper	2.27	3.09
Zinc	3.62	6.01

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Fort Bliss, Castner Range
Metals - Data Qualification Summary - SDG K1610299

No Sample Data Qualified in this SDG

Fort Bliss, Castner Range
Metals - Laboratory Blank Data Qualification Summary - SDG K1610299

No Sample Data Qualified in this SDG

Fort Bliss, Castner Range
Metals - Field Blank Data Qualification Summary - SDG K1610299

No Sample Data Qualified in this SDG

LDC #: 37346B4a

VALIDATION COMPLETENESS WORKSHEET

Date: 11/1/16

SDG #: K1610299

Level IV

Page: 1 of 1

Laboratory: ALS Environmental

(b) (6)

METHOD: Metals (EPA SW 846 Method 6020A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	9/1/16
II.	ICP/MS Tune	A	
III.	Instrument Calibration	A	
IV.	ICP Interference Check Sample (ICS) Analysis	A	
V.	Laboratory Blanks	SW	ICB/ECB only 30
VI.	Field Blanks	N	
VII.	Matrix Spike/Matrix Spike Duplicates	A	MSD = (3.4)
VIII.	Duplicate sample analysis	N	
IX.	Serial Dilution	A	SER = (1)
X.	Laboratory control samples	A	LCS
XI.	Field Duplicates	N	
XII.	Internal Standard (ICP-MS)	A	
XIII.	Sample Result Verification	SW	
XIV.	Overall Assessment of Data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

Samples appended with F were analyzed as dissolved.

	Client ID	Lab ID	Matrix	Date
1	FTBL-SP-07-090116	K1610299-001	Water	09/01/16
2	FTBL-SP-07-090116F	K1610299-001F	Water	09/01/16
3	FTBL-SP-07-090116MS	K1610299-001MS	Water	09/01/16
4	FTBL-SP-07-090116MSD	K1610299-001MSD	Water	09/01/16
5				
6				
7				
8				
9				
10				
11				
12				
13				

Notes:

DC #: 373464

VALIDATION FINDINGS CHECKLIST

(b) (6)

Method: Metals (EPA SW 846 Method 6010B/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?	✓			
Were %RSD of isotopes in the tuning solution $\leq 5\%$?	✓			
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were all initial calibration correlation coefficients ≥ 0.995 ?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) $\leq 20\%$ for waters and $\leq 35\%$ for soil samples? A control limit of $\pm 2X$ RL ($\pm 2X$ RL for soil) was used for samples that were $\leq 5X$ the RL, including when only one of the duplicate sample values were $\leq 5X$ the RL.	✓			
VII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?	/			
If the %Rs were outside the criteria, was a reanalysis performed?	/			
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL (ICP/MS)?	/			
Were all percent differences (%Ds) < 10%?	/			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		/		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	/			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	/			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.		/		
Target analytes were detected in the field duplicates.			/	
XIII. Field blanks				
Field blanks were identified in this SDG.		/		
Target analytes were detected in the field blanks.			/	

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

(b) (6)

METHOD: Metals (EPA SW 864 Method 6010/6020/7000)

Soil preparation factor applied: _____

Sample Concentration units, unless otherwise noted: _____ ug/L Associated Samples: _____ All

					Sample Identification									
Analyte	Maximum PB ^a (mg/Kg)	Maximum PB ^a (ug/l)	Maximum ICB/CCB ^a (ug/l)	Blank Action Limit	No Qual.									
Sb			0.008	0.04										

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 3734684

VALIDATION FINDINGS WORKSHEET **Initial and Continuing Calibration Calculation Verification**

(b) (6)

METHOD: Trace Metals (See cover)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
 True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated	Reported	Acceptable (Y/N)
					%R	%R	
	ICP (Initial calibration)						
ICV 6:21	ICP/MS (Initial calibration)	80	2397 ug/L	25 ug/L	96%R	96%R	Y
	CVAA (Initial calibration)						
	ICP (Continuing calibration)						
CCV 7:41	ICP/MS (Continuing calibration)	As	25.71 ug/L	25 ug/L	103%R	103%R	Y
	CVAA (Continuing calibration)						
	GFAA (Initial calibration)						
	GFAA (Continuing calibration)						

Comments: _____

LDC #: 3346B4

VALIDATION FINDINGS WORKSHEET **Level IV Recalculation Worksheet**

(b) (6)

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation,
 Found = SSR (spiked sample result) - SR (sample result).
 True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
 D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (mg/L)
 SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated	Reported	Acceptable (Y/N)
					%R / RPD / %D	%R / RPD / %D	
ICSPB 6:51	ICP interference check	Cu	51.01 ug/L	50 ug/L	102% R	102% R	Y
LCS 7:06	Laboratory control sample	Be	2.53 ug/L	2.5 ug/L	101% R	101% R	Y
MS 11:34	Matrix spike	Zn	(SSR-SR) 26.56 ug/L	25 ug/L	106% R	106% R	Y
MSD 11:35	Duplicate	Zn	30.24 ug/L	30.18 ug/L	0.2% RPD	0.2% RPD	Y
SER 11:37	ICP serial dilution	Zn	3.76 ug/L	3.62 ug/L	4% D	4% D	Y

Comments: _____

LDC #: 37346849

VALIDATION FINDINGS WORKSHEET

Sample Calculation Verification

(b) (6)

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?

Y	N	N/A	Are results within the calibrated range of the instruments and within the linear range of the ICP?
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Y/N	N/A	Are all detection limits below the CRDL?
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Detected analyte results for (1) Zn were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(\text{RD})(\text{FV})(\text{Dil})}{(\text{In. Vol.})}$$

Recalculation:

RD	=	Raw data concentration
FV	=	Final volume (ml)
ln. Vol.	=	Initial volume (ml) or weight (G)
Dil	=	Dilution factor

$$RQ = 3.62 \text{ g/L}$$

[illegible]

Note: _____